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NO. 64

"THE EFFECT OF NAVAL ACADEMY TRAINING ON
THE DECISION STYLES OF INDIVIDUALS"



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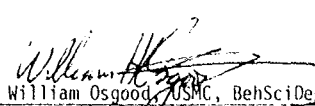
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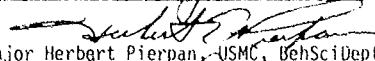
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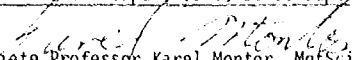
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ABSTRACT

The purpose of this project was to determine if Naval Academy training, in particular Plebe year, affected the style with which a person makes decisions. A second objective of this project was to determine what factors in the Naval Academy environment caused these changes. The areas of personality/motivational characteristics in comparison to decision styles and neurological output in relation to decision styles were also studies.

The report describes the concept of decision styles and the approach used in the study. The use of percentage analysis and analysis of variance determined significant results.

PREFACE

This study was undertaken as part of the Trident Scholar Research Program. It is the result of two semesters of study during the Academic year 1974-75.

The help and guidance of the project advisors, Major William Osgood, USMC, Major Herbert Pierpan, USMC, and Associate Professor Karel Montor is sincerely appreciated. Thanks is also given to Mr. Jim Schwab and the U. S. Naval Academy Academic Computer Center for their help. The encouragement and help of all others concerned with this project is greatly appreciated.

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CHAPTER I

INTRODUCTION

In every day of our lives, countless decisions have to be made. These may range from a simple decision such as what to wear during the day to a major decision such as the merging of a corporation. Wherever one goes, decisions must be made that have an effect on the individual and those around him. In the Navy, one of the principle jobs of an officer is decision-making. His job involves countless decisions which affect his men, his superiors, his peers, and his ship or unit.

Psychological research on thinking has suggested that thinking habits are not infinitely varied.¹ While each man is unique in many ways, there are different patterns of thought which are shared by many men.² These commonalities of man are called "styles". Man's patterns of thought bring about the concept of decision styles.

Basically, a decision style is a habit; a learned way of dealing with information.³ As we go through life, we develop methods of thinking over the countless daily episodes in the home, on the job, or at school.⁴

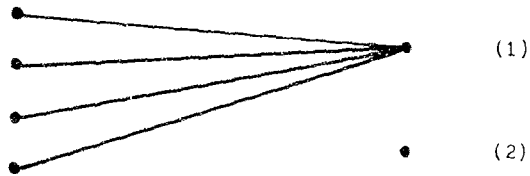
Two concepts stand out in the area of decision-making. These are how much information a man typically uses and the degree to which he focuses his information on a single alternative or solution.⁵ The amount of information a man uses can vary from a single one to multiple focuses. The focusing on solutions can be visually displayed as has been done in figure 1. The information could be observations, statistics, or facts. The conclusions could be problem solutions or possible alternatives. The two people depicted, A and B, use all of

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Person A: Single Focus

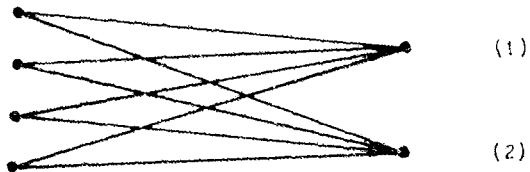
Information

Conclusions

Person B: Multiple Focus

Information

Conclusions

Figure 1. Focusing in decision making.⁶

the information available to them. Person A uses all the data to support one conclusion, while Person B uses all of the data to support both conclusions. Person A by having only one conclusion based on the available data, is more focused than Person B, who has several courses of action.

The concept of decision styles combines the dimensions of decisions making, information and focus, into a two by two table (FIGURE 2) to generate four basic styles.⁷ This is based on fifteen years of study and an extremely large sample of cases.

The decisive style uses little data and arrives at one decision. He is typically concerned with action, speed, consistency, and efficiency.⁸ The decisive does not use minimal data and one focus because of incompetence but because he wishes to deal with many problems.⁹ The decisive is concerned with achievement and results, a very action-oriented style. Since the decisive is not bogged down in detail, he is able to deal with more problems per unit of time in a consistent, reliable fashion than any other style.¹⁰

The flexible style is another action oriented style. Unlike the decisive, who maintains security through stability, the flexible maintains security through adaptability. The flexible style resembles the decisive in its emphasis on minimal data, but differs in focus.¹¹ The flexible is likely to shift his area of focus repeatedly over time. As the flexible style confronts a particular problem a different conclusion is likely to emerge from the facts.¹² Rapid adaptability is again stressed as the important concept. The flexible is concerned with external values and style -- how he does things.¹³ He likes the simple things that provide variety.

		<u>Amount of information</u>	
		Minimal	High
<u>Focus</u>	Single	DECISIVE	HIERARCHIC
	Multiple	FLEXIBLE	INTEGRATIVE

Figure 11. Four Basic Decision Styles¹⁵

The hierarchic uses varied data to arrive at one conclusion. He is the opposite of the flexible style. The hierarchic is a thinking-oriented style which values information because it leads to a solution.¹⁴ The hierarchic focuses on thoroughness. He is a perfectionist. This style is not rigid around strategies, but does like predictability. The hierarchic is usually slow to reach a conclusion, not because of a lack of mental ability, but because of the large volume of data employed.¹⁶ He likes power.

The integrative style uses varied data and applies it to several alternative decisions. He shares with the hierarchic the delight in thinking and in information.¹⁷ Exploration and experimentation are very important causing this style to be very creative. Action comes when several options are implemented nearly simultaneously.

These are the four basic decision styles. Yet there is a fifth style made up of a combination of the hierarchic and the integrative. This style is termed the complex style. The complex has all of the motivations, backgrounds, and needs of an integrative. He likes to be an integrative, but when faced by an environmental overload, he shifts to the hierarchic style. By environmental overload, it is meant too much information too quickly, and the amount of attainment of positive and negative values.¹⁸ The amount of information received can be referred to as the load. An example of a positive value would be a reward while a negative value might be a threat to the person. As too much of any of these factors become evident, the complex style shifts from his normal integrative style and becomes more hierarchic. The complex has the ability to shift styles when faced with subtle shifts in his environment. The complex is concerned with control, power, order,

and organization. The key with this style is overload. Until the complex reaches that point where he is overloaded he maintains an integrative style. To remove the overload, the complex becomes hierarchic.

It is important to stress that no one style is better than any other. No one style has a monopoly on intelligence, they are merely methods of processing information and reaching conclusions.¹⁹ The styles have been presented in only a brief summary at this point. The decision style of a person characterizes most of his daily activities.²⁰ The decisions a person makes and the way that he does it, affects both technical and social areas of management. The technical areas are those non-people oriented functions of planning, research, product acquisition, information storage, problem-solving, and control. The social areas are people-oriented functions. These include selection of personnel, manpower design, job design, organization, communication, resolution of conflicts, motivation, and evaluation. All of these functions are displayed in Figure III. By referring to Appendix A., the reader will be given a detailed explanation of each style in all of its managerial aspects.

Each person has a decision style in which he is most comfortable. This dominant style can yield to other styles if sufficient pressure to do so exists.²¹ Usually this is only a temporary change and the person experiences frustration and anxiety while he is in a different style. Studies by Dr. Michael Driver of the University of Southern California, Department of Management, have shown that permanent changes in decision

MANAGERIAL / LEADERSHIP FUNCTIONS

<u>TECHNICAL OR</u> <u>NON-PEOPLE FUNCTIONS</u>	<u>SOCIAL OR</u> <u>PEOPLE-ORIENTED FUNCTIONS</u>
Planning	Selection
Research	Manpower design
Product Acquisition	Job Design
Information Storage	Organization
Problem Solving	Communication
Control	Conflict Resolution
	Motivation
	Evaluation

Figure III. Managerial / Leadership Functions

styles can occur after prolonged exposure to an environment. The person may not like it, but he will adapt his style.

This project is based on the hypothesis that Naval Academy training, particularly plebe year, influences the style with which a person makes decisions and may actually change a style. The Academy presents an environment different in many ways from what a person has previously experienced. The mission of the Naval Academy is to prepare young men, morally, mentally, and physically to be professional officers in the Naval Service. Plebe year is the initial experience that an aspiring officer has with the new environment to which he will be exposed for the next four years. Plebe year is designed to test and develop the midshipmen. It is a period of time during which a midshipman is required to perform under stress and to respond promptly and intelligently to orders.²² The new midshipman lives within the framework of several systems which are the Plebe Indoctrination System, the Administrative Conduct System, the Honor Concept, and the Naval Academy regulations. The Plebe Indoctrination System is of particular note for this is the system designed to develop within the individual the following characteristics:

- a) Self-discipline and command presence.
- b) Ability to organize time and effort effectively.
- c) Ability to think and react with good judgment.
- d) Exemplary military bearing, appearance, and etiquette.
- e) A basic knowledge of professional military subjects.
- f) A knowledge of followership-leadership principles.

The question is raised as to what changes this system brings about in the midshipman who experiences it. How does the training gained during

Plebe year affect the ways in which the Plebe uses information and determines a solution? This project analyzes as one of its objectives whether a change in the decision-making process occurs.

A second objective of this project is to determine what factors in the Naval Academy environment cause these changes, if they occur. Do the constraints of time and regulation cause a midshipman to change styles?

A third area of interest is to determine if there are any commonalities of personality and motivational characteristics of each style. By motivation characteristics, it is meant those emotions, desires, physiological needs, or similar impulses acting as an incitement to action. By personality traits, it is meant the pattern of collective character, behavioral, temperamental, emotional and mental traits of an individual. These characteristics were determined through the use of a battery of four tests. The tests are the 16 Personality Factor Questionnaire (16PF), the Motivational Analysis Test (MAT), The Cornell Word Form Test, and the Athletic Motivation Inventor (AMI). These tests give 68 mutually exclusive factors that this project has tried to relate to decision styles.

The final objective was to analyze if the respective styles have any characteristic brain wave patterns. Through the use of an electroencephalogram, electric potentials of the brain were measured and recorded. These recorded brain waves were analyzed to see if any characteristic patterns can be discerned for each style.

At the beginning of the project, it was necessary to increase the researcher's knowledge in the areas of decision styles, psychological theory, and brain wave analysis. Talks with Dr. Michael Driver of the University of Southern California and related readings provided the necessary background in the area of decision styles. Selected talks and readings on personality factors and on brain waves increased the researcher's knowledge in these related areas, along with many hours in the Academy's Brain Wave Laboratory.

The approach taken in this study was:

1. Administering a decision style test to the Class of 1977 at the beginning of Plebe year and at the beginning of Third Class year.
2. Determination if significant changes in decision styles resulted from Plebe year.
3. Comparison of decision style to personality/motivational factors.
4. Analysis of Naval Academy training to determine what factors in it might cause a change in decision style.
5. Comparison of decision style data to neurological data.

This project is based on the hypothesis that training here at the Naval Academy will influence or change a person's decision style. The way we process our information and focus it, dictates how we deal with problems in a managerial or leadership role. For us at the Naval Academy, where we are preparing for leadership roles, this information will be important.

PROCEDURE

To accomplish the objectives of this project, it was first necessary to use a class which would be available for retesting. For this reason, the Class of 1977 was chosen. Because it was necessary to administer the test twice to see if changes in decision styles occurred, the Class of 1977 was tested at the beginning of their freshman year or Plebe year and again at the beginning of the sophomore year.

The test used to determine decision styles was the Decision Style Diagnostic Test developed by Dr. Michael Driver of the University of Southern California, Department of Management. The validity of this test had been established over the years of his research.

As has been stated, the decision style test was given for the first time at the beginning of Plebe summer for the Class of 1977. The test was administered in Chauvenet Hall, Room 216, and also in the smaller lecture rooms in Michaelson Hall. The rooms were comfortable as far as seating is concerned. The air conditioning provided a comfortable mean temperature to remove discomfort while the test was being taken.

The Class of 1977 was marched to the test sites by platoons and was seated by platoons.

The decision style test was given as part of a series of tests. This series was made up of the Sixteen Personality Factor questionnaire, the Motivational Analysis Test, the Cornell Word Form Test, the Athletic Motivation Inventory, and finally the Decision Style Diagnostic Test. All midshipmen were provided pencils, test forms, and answer sheets. The Decision Style Test was given last to ensure that all men had sufficient time to answer each question fully. When a person finished

the test, he was free to get up and leave the test site. The test was administered by Major William Osgood, USMC, of the Behavioral Science Department, U. S. Naval Academy.

The test was again administered to the Class of 1977 during the second and third day of their sophomore year. The test was given to the First Regiment on 5 September 1974 and to the Second Regiment on 6 September 1974. The test was given in Room 216, Chauvenet Hall by Major William Osgood, USMC. All instructions and materials provided were identical to those given during the first test period. Each midshipman was told to answer the questions as honestly as he could. The midshipmen walked to the test site instead of being marched in formation as was done in the first test. In both instances, the members of the Class of 1977 were required to be present.

Both sets of tests were scored and interpreted at the University of Southern California. The individual scores and decision styles were then sent to the Naval Academy. Although the researcher knows the interpretation techniques, it was decided that due to the large volume of tests, the University of Southern California, Department of Management was more capable of handling the load.

The computer proved to be invaluable in the analysis of the raw data. Four files were created to initially handle the volume of scores and decision styles. Two files were created to handle the scores of the tests. The first of these, file "Style 1A", was made up of all test scores from the initial test given at the beginning of the freshman year. File "Style 2A", the second file, contains the scores from the second test. The input of the actual decision styles from the interpreted scores was accomplished by first using mark sense cards.

Each individual's style was transferred manually by the researcher from the data sheets received from USC to the mark sense cards. These cards were then interpreted by a card reader and placed in computer files. File "Style 73", contained the decision styles from the initial test. The decision styles from the second test were contained in the file, "Style 74".

In order to compare one file to another, it was necessary to insure that all files were identical. This involved checking the files to see that all midshipmen scores and styles used were represented in all four files. Any person found to not be represented in all four files was dropped from further analysis. The reason for the possibility of non-representation in a particular file was failure to accurately fill in the identification section of the test form. Rather than try to guess to whom the scores should be assigned, the scores were dropped. Thus 986 midshipmen were used as the population for the analysis.

A potential problem resulted when the researcher was notified by the University of Southern California that the scoring procedure used on the two tests had been revised. Thus a possibility existed that the scores and interpretations could have been different. The researcher alleviated this problem by randomly checking the scores and interpreted decision styles of one quarter of each test sample population. A random number table from the 19th Edition of the CRC Standard Math Tables (page 621) was used to generate the random numbers. These numbers were matched with the sequential ordering of midshipmen identification codes (alpha codes). It was found that the new scoring procedure did not affect the interpretations of the scores.

The analysis of the decision style data was chiefly performed

through the use of the computer. All computer programs used can be found in Appendix B along with an explanation of their functions.

A percentage analysis was first used to provide an initial indication of significance between the results of the two decision style tests. The number of midshipmen in each style was counted by the use of the program "COUNT". This program was run for both of the tests. The results of the counts were compared and a normal test of significance performed through the use of the program "COMPARE". To further verify the results of this initial test, the scores of the tests were compared through an analysis of variance. The program used to perform this function was "VAR3".

The determination of commonalities between the personality and motivational characteristics of each midshipman and his decision style was accomplished through the use of the computer also. The computer file "CLASS77A" was created containing the sixty-eight factors resulting from the personality/motivational tests administered during the freshman year with the decision style test. This file and the file "STYLE 74" were combined through the use of the program "MERGE". An analysis of variance was then performed to determine significance through the use of the program "VAR2".

The normal distribution is dominant among theoretical distributions in the study and application of statistics.²³ The normal distribution is also used in making tests concerning a significant difference in a sample mean and sample proportion. The technique of analysis of variance is one of the most powerful of statistical methods.²⁴ In dealing with the area of significance the researcher had to decide at what level to call the results significant. The comparisons programs provided a

normal statistic which provided the basis for determining whether several sample means differed significantly. The analysis of variance programs provided an F-statistic which provided a basis for determining significance like the normal statistic. The researcher chose a level of significance of .05 as the minimum standard. The corresponding value for Z from the normal tables was 1.65. The value for the F-statistic for a .05 confidence level was 3.84. By finding statistics with at least these values, the researcher could be ninety-five percent sure of a significant difference between the two variables being tested.

The analysis of the Naval Academy for constraints affecting decision styles was performed in an objective manner. There was no numerical data to correlate. This analysis was accomplished by examining both the technical and the social areas of management in all of their categories as applied at the Naval Academy. The Academy was divided into the various parameters by which a midshipman lives. These were the Plebe Indoctrination System, the Administrative Conduct System, the Aptitude System, the Naval Academy Regulations, and the influence of time. Each area was analyzed to determine how it would affect the midshipman's decision style. In order to prevent this part of the project from becoming pure conjecture on the researcher's part, much time was spent in talking to midshipmen of all classes in the Twenty-eighth Company to get their views concerning the parameters stated above. A structured Interview technique was used.

The final section of the procedure deals with the brain wave analysis portion of the project. This portion of the project deals with only a sample of the total population used in this project.

In the first part of the project, the researcher dealt with decision

styles and the effect of Naval Academy training on them. In parallel with this effort, neurological activity in relation to decision styles was analyzed. Seventy-seven volunteers from the Class of 1977 made up the sample for this portion of the project. These midshipmen represented a cross-section of the decision styles of the total population based on the results of the test administered during the freshman year.

A diagram of the instruments used in the neurological testing is presented in Figure 4.

Electrodes used for electroencephalograph (EEG) measurements were placed according to the International Electrode Placement System from O1-C3 and O2-C4. The impedance between each set of points was below 10,000 ohms for all subjects to reduce contamination from outside signals.

A model 79C Grass EEG was used to amplify the brain waves signals. The left and right hemispheres of the brain were amplified by two of the channels. A third channel amplified the subject's pulse which was monitored via a small photoelectric transducer placed over his thumb.

Two four-channel tape recording units were used to record the four signals of pulse, left EEG, strobe repetition frequency and right EEG. One of the recorders was a Hewlett Packard (HP) model 3960 Instrumentation Recorder with a frequency range of 0-5000 hertz. The other was a Vetter model C-4 with a 0-100 hertz range. This machine was used as a back-up.

All recording channels were monitored visually through the use of a HP model 1309A Monitor while the testing took place. In addition, the left and right EEG signals were fed separately into two identical Spectral Dynamics (SD) model 330A Real Time Analyzers. These units provided a spectral plot of frequency versus voltage. During the testing, these plots were monitored to provide an intuitive feel for possible

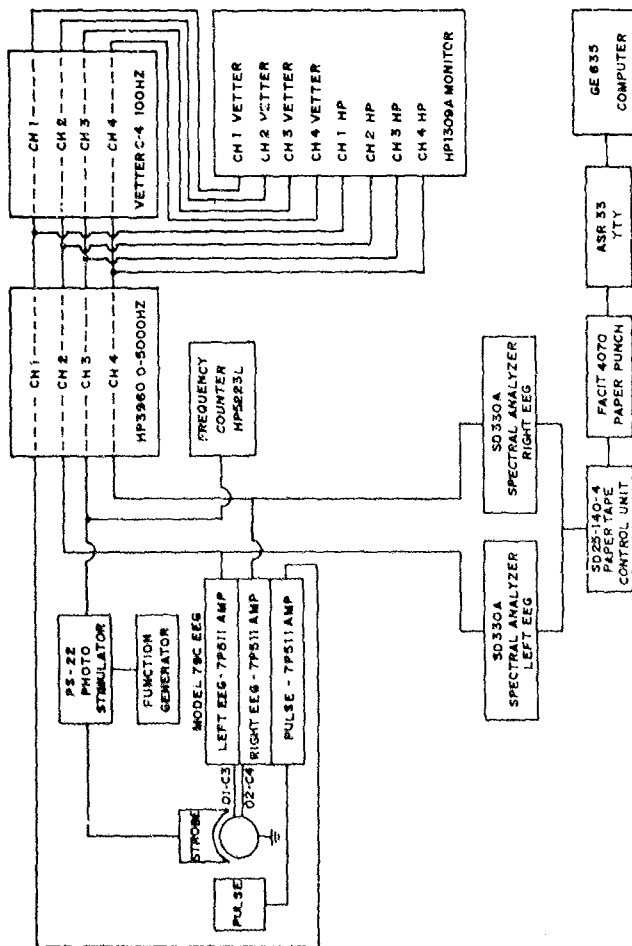


FIGURE IV. DIAGRAM OF NEUROLOGICAL TESTING EQUIPMENT

neurological relationships.

Each subject's EEG output was recorded sequentially on magnetic tape. When all of the testing was completed, these tapes provided the inputs to the spectral analyzer units. The tapes recorded on the HP Model 3960 were selected for analysis due to the higher frequency range of the recorder. An HP Model 52236 Frequency Counter was used to monitor the strobe repetition frequency on Channel 3 of the tape to permit identification of the different testing segments.

The spectral analyzers were used to produce average spectral plots. The output of each plot was converted, by means of an SD Model 25-140-4 Paper Tape Control Unit and a Facet model 4070 Paper punch, into a paper tape. This tape was input into the Naval Academy's Honeywell 635 time sharing computer through the use of an ASR 33 terminal.

All testing was accomplished in the evening during the months of November and early December, 1974.

Upon arriving at the laboratory, each subject was asked to be seated and was then told the procedure to be followed during the experiment. The electrodes were then attached using procedures recommended by the EEG manufacturer. The subject's blood pressure and pulse were also recorded at this time. Once the electrodes were in place, the subject was able to see his own brain waves on the monitor scope. The importance of the subject's relaxation was stressed. To further emphasize this point, the subject was asked to grind his teeth and watch on the monitor the effect the muscle activity had on his brain waves. The testing procedures were reviewed and the subject was then instructed to close his eyes and relax. All room lights were turned off with the exception of a single shaded, forty-watt lamp. From this point, every effort was made to

remain as quiet as possible so as not to disturb the subject. Silencers were placed over the ears of the subject to help reduce the noise level.

Testing began with three minutes of EEG recorded while the subject was resting. The subject was next recorded while being strobed at six different frequencies. These were 11.5, 14.0, 16.5, 19.0, 21.5 and 11.5 hertz. Each strobing frequency was recorded for forty-five seconds. Then the electrode leads were disconnected and the subject was taken into an adjacent room to take the Harvard Step Test. This test lasted five minutes and provided a source of physical activity. After the completion of this activity the subject was returned to the laboratory where his blood pressure and pulse were recorded. The electrode leads were reconnected also. One minute of EEG was recorded while the subject was resting, followed by the same strobe sequence as before. After the strobe was completed, the overhead lights were turned on, the electrodes were removed, and the subject thanked for his participation. He was also advised that the results of the testing would be made known to him after the study was completed, if he was interested. Appendix C contains a sample data recording sheet identical to those used during the testing.

The recorded tapes were used as the inputs to the Spectral Analyzer Units, as has been stated. A spectral plot from the three minute resting period prior to the Harvard Step Test was produced for both the left and right hemispheres. The values were transferred through the use of the paper tape control unit to paper tapes. This procedure was subsequently followed for each of the six strobing frequencies before the Harvard Step Test, the one minute resting period after the Harvard Step Test, and each of the remaining strobing frequencies. A total of twenty-eight different sets of values was read to the paper tape. This tape represented the

record of neurological data for that subject and was input into the computer. The data accumulated for each decision style was compared to the other decision styles and an analysis of variance was performed to determine significance.

The data concerning blood pressure and pulse was not used in this project. A standardized testing procedure was developed to facilitate related research by other researchers. Midshipmen First Class Charles Hill and Wayne Woods, 1974-75 Trident Scholars, used the same data base to perform other research.

RESULTS

The primary objective of this study was to determine if the training received at the Naval Academy during Plebe year brought about a change in a person's decision style. The secondary objectives were to analyze personality/motivational characteristics with respect to decision styles and also to look at decision styles in relation to neurological output.

The computer program "COUNT" was run to count the total number of people in a style based on the results of the two tests. A percentage analysis was then performed through the use of the program "COMPARE" to determine a normal statistic which could be used to determine the level of significance. An analysis of variance was then performed on the scores of the tests to develop an F-statistic which could be used to determine significance. This second test of significance was used to check the results of the percentage analysis.

Based on the program "COUNT" it was found that of the 986 midshipmen tested in 1973, there were 392 decisive midshipmen after Plebe year. The percentage analysis based on the results of the two tests with respect to the decisive decision style gave a normal statistic of 6.11764. The criteria for significance had been established by the researcher to be at the .05 level with an appropriate normal statistic of 1.65.

In 1973 it was found that 302 midshipmen had a flexible decision style. This number decreased to 251 flexible styles after Plebe year. The percentage analysis provided a normal statistic of -2.55664.

The number of hierarchic decision styles held by midshipmen in 1973 was found to be 147. In 1974, after Plebe year, the number of hierarchic

decision styles was 129. The normal statistic for these figures was 1.16831.

There were 160 midshipmen in 1973 who had an integrative decision style. This number had increased to 184 after Plebe year. The appropriate normal statistic found from the percentage analysis was 1.42416.

The final style to be compared was the complex style. In 1973, a total of 113 midshipmen used this decision style. This number had decreased to 30 complex styles found as a result of the 1974 test. The normal statistic from the percentage analysis was found to be 7.20704.

The results stated above can be found in Figure V. of this chapter for easier comparison.

As has been stated, an analysis of variance was performed on the decision style test scores to check the results from the percentage analysis. This test provided an F-statistic which could be checked for significance. The criteria for a .05 level of significance using an F-statistic was found to be 3.84. The F-statistic found when comparing the decisive scores was 21.4543. Comparing the flexible scores yielded an F-statistic of 19.0415. The F-statistic from the comparison of the hierarchic decision style scores was 10.6027. Comparing the integrative decision style scores gave an F-statistic of .0377.

The researcher was interested in the percentages of people within a style who changed to the decisive decision style. This interest was aroused when it was found that a large increase in decisive decision

Style	1973 Results	1974 Results	Normal Statistic
Decisive	264	392	6.118
Flexible	302	251	2.557
Hierarchic	147	129	1.168
Integrative	160	184	1.424
Complex	113	30	7.207

Figure V. A Comparison of Results of Decision Style Tests

styles resulted from the 1974 test administration. It was found that 52% of those midshipmen who were decisive in 1973 remained decisive after Plebe year. Thirty-four percent of those midshipmen who had flexible decision styles in 1973, changed to a decisive decision style in 1974. Thirty-three percent of those midshipmen who had a hierarchic decision style in 1973 had changed to a decisive decision style in 1974. Thirty-seven percent of those midshipmen who had an integrative decision style in 1973, had changed to a decisive decision style in 1974. The number of midshipmen who changed from the complex style in 1973 to the decisive decision style in 1974, was thirty-seven percent. A breakdown of the 1973 styles showing the number of midshipmen changing styles can be found in Figure VI.

In analyzing personality/motivational characteristics in relation to decision styles, each style was run against every other style using analysis of variance. A total of ten comparisons were made. In order to reduce the possibility of chance significance of personality/motivational characteristics, the researcher set a standard criteria. Before a significant difference could be reported at the .05 level, there had to be at least seven factors that were significant. In four comparisons, significant differences were found.

The comparison of the decisive style to the flexible style found differences in nine characteristics. The decisive was found to score significantly higher in unconscious career, unconscious assertiveness, total assertiveness, conscious self-sentiment, and personal interest. The flexible style scored higher in apprehensive, tenseness, conscious

	1974 Decisive	1974 Flexible	1974 Hierarchic	1974 Integrative	1974 Complex
1973 Decisive	137	60	24	36	7
1973 Flexible	105	100	40	49	8
1973 Hierarchic	49	29	25	38	6
1973 Integrative	59	35	18	43	5
1973 Complex	42	27	22	18	4

Figure VI. Decision Style Shift As Shown In 1973-74 Contrast

sweetheart/spouse, and information (IQ).

Significant differences were found in the comparison of the flexible decision style to the hierarchic style. The hierarchic scored higher in happy-go-lucky, unconscious fear, total fear, total assertiveness, and personal interest. The flexible scored higher in tension, unconscious superego, and conscious career.

Eight factors were found to be significantly different in the comparison of the flexible style to the integrative style. The integrative style scored higher in imaginative, unconscious assertiveness, conscious assertiveness, information (IQ), and personal interest while the flexible style scored higher in unconscious superego.

The final comparison in which significance was found was hierarchic versus integrative. A total of eight characteristics were found to be significantly different at the .05 level. The hierarchic scored higher in experimentation, alert poise, and unconscious fear. The integrative scored significantly higher in anxiety, tender-minded, unconscious assertiveness, information (IQ), and in total integration.

An explanation of each of the 68 factors in the personality/motivational tests can be found in Appendix D.

A total of 32 comparisons were made in analyzing neurological output in comparison to decision style. This analysis was based on a sample size of 76 midshipmen from the Class of 1977. Comparisons were made of entire styles versus every other style using an analysis of variance. The style groups were also rank ordered based on the scores of the decision style tests. The top and bottom twenty percent of each style

were then compared to the top and bottom twenty percent of every other style. This analysis also utilized an analysis of variance. This sample group was analyzed with respect to personality/motivational characteristics to determine if the sample group would have similar results to that obtained from the class as a whole.

When all flexibles were compared to all integratives, significant difference at the .05 level were found in neurological output while the subjects were resting after the Harvard Step Test. The significant differences were noted in the left hemisphere of the brain.

In the comparison of the hierarchic style versus the integrative decision style, significant differences at the .05 level were noted in personality/motivational characteristics. The hierarchic style was more anxious, more suspicious, more apprehensive, more self-sufficient and more independent than the integrative decision style. The hierarchic style also scored higher than the integrative style in unconscious mating, and in total mating. The integrative style scored significantly higher in conscious development, trust, emotional stability, assertiveness, conscientiousness, control, unconscious superego, unconscious self-sentiment, total superego, total self-sentiment, and in autism-optimism.

When the high decisive were compared to the low decisive scores, significant differences were noted at the .05 level in the left hemisphere of the brain while resting after the Harvard Step Test and while being strobed at 11.5 hertz after the Harvard Step Test. Significant differences at the .05 level were also noted in personality/motivational characteristics. The low decisives scored higher in experimenting,

unconscious fear, unconscious narcissism/comfort, unconscious sweetheart/spouse, conscious mating, total integration, and in personal interest.

In comparing the high decisives with the low flexibles significance at the .05 level was found in the neurological output of the right hemisphere of the brain while being strobed at 11.5 hertz after the Harvard Step Test. Significance was also found at the .05 level in the personality/motivational characteristics. The low flexibles scored higher in assertiveness, happy-go-lucky, suspiciousness, unconscious career, unconscious fear, unconscious mating, total integration, total narcissism/comfort, and in personal interest.

Significance at the .05 level was found in personality/motivational characteristics when the high decisives were compared to the low hierarchics. The high decisive scored higher in drive, self-confidence, unconscious superego, total superego, emotional stability, conscientiousness, and in being controlled. The low hierarchics scored higher in suspiciousness, total sweetheart/spouse, total narcissism/comfort, unconscious sweetheart/spouse, total narcissism/comfort, shrewdness, and tenseness.

The comparison of high decisives and high hierarchics showed significant differences in personality/motivational characteristics. The high decisives scored higher in conscious development, guilt proneness, emotional stability, conscientiousness, and in unconscious superego. The high hierarchics scored higher in happy-go-lucky, experimenting, independence, unconscious narcissism/comfort, unconscious pugnacity/sadism, unconscious sweetheart/spouse, total fear, and in

personal interest. Significant differences at the .05 level were observed in neurological output. The high decisives had greater power in the left hemisphere while resting and while being strobed at 11.5 hertz before the Harvard Step Test. After physical activity, the high decisives had greater power being produced in the left hemisphere while being strobed at 11.5 hertz. The high decisives had greater power in the right hemisphere while being strobed at 21.5 hertz before physical activity and while being strobed at 11.5 hertz after physical activity.

Significant differences were noted in neurological output when the high decisives were compared to the high integrations. The integratives produced more power while being strobed at 11.5 hertz after physical activity in both the left and right hemispheres.

The low flexibles produced significantly more power in the right hemisphere than the high flexibles at the .05 level while being strobed at 21.5 hertz. The high flexibles produced more power than the high hierarchics after physical activity. The high flexible showed significant differences while being strobed at 11.5, 14.0, 16.5, 19.0, and 21.5 hertz. The differences occurred in the left hemisphere of the brain.

In comparing the high flexibles with the high integratives significant differences were found in neurological output. The integratives produced more power in the left hemisphere while being strobed at 14.0, 19.0, and 21.5 hertz before physical activity. More power was produced in the right hemisphere by the integratives while being strobed at 14.0 hertz after physical activity.

The comparison of high hierarchics to low hierarchics produced only

significant differences in personality/motivational characteristics at the .05 level. The high hierarchic scored higher in intelligence, emotional stability, assertiveness, experimenting, independence, total fear, and in total pugnacity/sadism. The low hierarchic scored higher in apprehensiveness, unconscious self-sentiment, unconscious pugnacity/sadism, and in total self-sentiment.

The high hierarchics in comparison to the low decisives had significant differences at the .05 level in both neurological output and personality/motivational characteristics. The high hierarchics scored higher in anxiety, unconscious pugnacity/sadism, independence, experimentation, and in total pugnacity/sadism. The low decisives scored higher in outgoing, conscientiousness, unconscious self-sentiment, total self-sentiment and in autism/optimism.

The low decisives produced more power in the left hemisphere of the brain while resting and at 11.5, 14.0 and 16.5 hertz before the Harvard Step Test. The low decisive produced greater power prior to physical activity in the right hemisphere while being strobed at 19.0 hertz.

The comparison of the high hierarchics to the low flexibles showed significance at the .05 level. The low flexibles produced more power while being strobed at 11.5 and 14.0 hertz. This was in the left hemisphere of the brain while resting.

Significance was found in personality/motivational characteristics when the high hierarchics were compared to the low integratives. The high hierarchics scored higher in assertiveness, experimentation, independence, and in total fear. The integratives scored higher in

determination, outgoing, and in unconscious superego.

The high hierarchics compared to the high integratives showed significance in both neurological output and personality/motivational characteristics. The high hierarchics scored higher in intelligence, independence, and in total fear. The high integratives scored higher in conscience development, outgoing, tenderminded, unconscious superego, total superego, and total self-sentiment. The integratives produced more power at the .05 level after physical activity while being strobed at 11.5 and 14.0 hertz in the right hemisphere of the brain.

Significance at the .05 level was found in neurological output when the high integratives were compared to the low decisives. The high integratives produced more power in the right side of the brain while being strobed at 11.5 hertz after physical activity.

AN ANALYSIS OF THE NAVAL ACADEMY

As was stated in Chapter I, the decisions a person makes and the way a person does it affects both technical and social areas of management. The technical areas are those non-people oriented functions of planning, research, product acquisition, information storage, problem-solving, and control. The social areas are people-oriented functions. These include selection of personnel, manpower design, job design, organization, communication, conflict resolution, motivation, and evaluation. These functions are illustrated in figure three of Chapter I.

Just as an individual has a decision style, so too does an organization. The organization deals in all of the technical and social functions as an individual would. Therefore it is possible to determine an organization's style in decision making. The Naval Academy is no exception. This chapter is an analysis of the Academy as it is seen by Midshipmen to determine its decision style. This analysis was performed by the researcher. The researcher recognizes the fact that this may not be the way that the command structure views the Academy, but Midshipmen are the people who are being analyzed as far as changes in decision styles are concerned and thus the Academy must be viewed as Midshipmen see themselves being affected. The connotations of good and bad were not attached to any aspect of this analysis.

The first technical area to be analyzed was planning. The Academy was determined to be decisive in scheduling. A Midshipman's day, especially during Plebe summer, is mapped out for him in advance. Most activities are planned. Examples would be (1) weekly schedule of events;

(2) Brigade Bulletin schedule of meetings; and (3) daily schedule of classes, formations, meals, sports, and study hours for Plebes.

The Academy considers deadlines critical. This is a decisive trait. All things done by the plebe have a time set when it must be done. The Academy is hierarchic in respect to time focus. Plans are made long-range and include all activities. Examples of time focus would be football operation order planning; intramural schedules, class assignment schedules, and June Week planning. Along with a long range time focus, the Academy believes in extensive planning. This is a hierarchic trait. Any major activity has a contingency plan. These range from June Week plans in case of bad weather to football games to the procedure to follow should a professor fail to appear at class. The midshipman can't escape seeing all of these plans and being influenced by them. Midshipmen see the flexibility of the Academy in planning as being low. Items scheduled take place when they are scheduled. This is decisive. Examples of this are the intramural schedule of contests and the schedule of final examinations.

Goal-setting at the Naval Academy is divided into three areas for analysis. These are goal origins, number of goals, and tactics. The goal origins here at the Academy are decisive in that they are externally originated. The Midshipman does not feel that he is setting his own goals except to the degree that he can within the framework of the Academy. The Aptitude system sets a Midshipman's personal goals. The Majors selection program determines what he will study. Professional courses are assigned that must be taken and minimum grades established. The Plebe Indoctrination system states what a plebe will know and how soon he must know it. The Conduct system establishes the rules of midshipman

life along with the Naval Academy Regulations. The Academy is decisive with respect to the number of goals in that midshipmen see it as having few goals. The goal of the Academy as stated in the Mission of the Naval Academy is to "prepare young men, morally, mentally, and physically to be professional officers in the Naval Service". All that one does at the Academy is aimed at producing a professional officer. As far as tactics toward achieving its goals, the Academy has many approaches, a hierarchic trait. These are the Administrative Conduct system, the "special instruction period" within the framework of the Plebe Indoctrination system, and the Aptitude system.

The third area of the technical functions is the conduct of research. This area is divided into the amount of data used, the sources of data, what is done with new information, knowledge, and orientation toward the world. The amount of data used is essentially none as far as the Plebe is concerned. Time for the Plebe is at a premium. The "gouge" or the "answer" is extremely prevalent. The main objective of the Plebe is to find the right answer although he may not know why it is right. This attitude is prevalent with most midshipman here at the Academy. The reason for this prevalence is the constraint of time. There simply is not enough time to get all things done as thoroughly as possible. Thus, one is forced to look for the "gouge". The midshipman is decisive in this area. The source of all data for the Plebe is external authority. This is decisive. The Plebe Indoctrination system tells him how to live; the Administrative Conduct system tells him how to live; the Aptitude System dictates to the Plebe what he must be. People are the Plebe's source of information as far as most professional topics are concerned. Very little research is performed by the midshipman. When the answer has been found,

he usually does not look further. Time is the critical factor again as it was in the amount of data used. New information and what is done with it is again affected by time. The Plebe will look at information, but if it doesn't fit into his present mode of operation, it is delayed or else forgotten. This is hierarchic since he tries to make it fit with own perception. As far as knowledge is concerned, the Plebe sees the Academy as having trouble with it. This is hierarchic. Because the Academy is in the public eye, the Midshipman feels it is not quick to make changes. Examples would be such things as controversial topics, refusal to accept certain concepts of current life, and class selection. This does not mean that the Academy is stagnant and not changing. To the Plebe and midshipmen in general, these changes are just very slow in taking place. Finally the orientation of the Academy toward the world is one of control of the environment, a hierarchic trait. The Academy, being a military school, can control the midshipmen and does. Regulations are set and enforced.

The area of purchasing or acquisition is definitely decisive as far as the Plebe is concerned. The important constraint is time. The midshipmen doesn't have the time to be an active searcher, in most cases. He buys brand name goods based upon ease and efficiency of acquisition.

Information storage is divided into two catagories. These include kinds of storage and kinds of display. The Plebe is decisive in that he stores summary data. He doesn't have time to learn all the material required in detail, so the Plebe summarizes. All material is stored in summary form. The kind of display preferred by the Plebe is "the answer". The most important idea to the Plebe is to produce "the answer". The Plebe Indoctrination system stresses "the answer". All questions concerned

amount of data used is again oriented toward a hierarchic tendency. Large amounts of paperwork are analyzed in the control function. To the Plebe, the reaction to error of the Academy is an immediate response. Conduct offense reports are processed quickly and punishment determined as soon as possible. The nature of this reaction is to correct the situation as quickly as possible. This is decisive. The Plebe Indoctrination system with its special instruction periods is geared to immediate response. The Plebe Indoctrination system also advocates on-the-spot corrections of the Plebe by upperclassmen and officers. Deviations from upward trends seem to set off control reactions. These are hierarchic tendencies. The Plebe has rules and regulations by which he must live. He also has requirements to meet within the Plebe Indoctrination system. Deviations from the regulations or not meeting the prescribed requirements set off control reactions that affect the Plebe.

The social areas of management are the next major aspects to be analyzed. These include all those managerial aspects concerned with people and their interactions.

The first of the social aspects is selection, which is divided into procedures for getting people into the system, manpower development, and job design. The Academy is integrative with respect to getting people into the system. The Academy uses a combination of procedures and testing to determine an applicant's qualifications. The concept stressed is the "whole man" concept. The Academy tries to understand the whole person and looks for the growth potential in applicants. An applicant for admission to the Naval Academy is studied in the areas of academics, sports, extracurricular activities, medical fitness, and growth potential. The author concludes that the development of midshipman is geared towards the

with that system have a correct answer. Data is relatively unimportant. Few people take the time to ask why and how.

Problem solving is divided into three areas: orientation to problem solving; length of time a solution can be delayed; and number of sides of a question studied. As far as orientation to problem solving is concerned, the Plebe is decisive. He doesn't have time to deal with long range problems. Only those that are occurring at the immediate moment receive his attention. Long range problems are put off until they become immediate. The Plebe is flexible with respect to length of time a solution can be delayed. A Plebe or any midshipman can delay a solution indefinitely until the schedule states that the problem must be solved. The Plebe looks at only one side of a problem. This basically involves how the problem will affect the Plebe. This is decisive.

The area of control is broken down into frequency of checking on opinions, the basis of control, the amount of data used, the reaction to error, the nature of the reaction, and what sets off reactions. The Academy is continually focused on results. This is a decisive tendency. The Academy is constantly looking at a midshipman in some area, whether it be academics, absences from class, taps inspections, meal formations, or sports participation. The midshipman is also evaluated by an Aptitude Evaluation Report (Form 54A) at least three times an academic year by his superiors and twice a year by his peers. The Plebe is constantly being watched by both upperclassmen and officers. The basis for control is data. In this respect, the Academy is hierarchic. The Academy has forms for every situation. Some examples are Aptitude Evaluation forms, report of conduct offense forms, accountability muster boards for both meals and taps inspections, interview sheets, and academic progress reports. The

the decisive style. The Academy uses on-the-job training techniques. Laboratories for classes are geared toward application of learned concepts. Summer cruises provide the midshipman with training in the fleet. The leadership positions within the Brigade, as a whole, are aimed at giving the future officer the experience that he will need. The job design within the Academy is seen by Midshipmen as a rigid list of job behavior. The Academy Regulations and the schedule of events provide the framework. This is decisively oriented. Especially in the case of the Plebe, there is very high structure and low job flexibility. The job is the key.

Organizing people is divided into the basis of interaction among people and power. There are two ways of looking at interaction among people. The Plebe sees the Academy's concern being that the Plebe is taught that loyalty is the key. Loyalty is seen as obedience to authority and respect for those in authority. The Plebe is taught to be loyal to those above him and to respect the chain of command. This is decisive. But on a personal level, midshipmen tend to organize themselves integratively in an area of trust and mutual understanding. Empathy for one another is important. Power can also be viewed from two aspects. On an organizational level, the power is perceived to be decisive. To the midshipmen, established authority decides who has power and how much. On an informal level, however, power is determined by personal charisma. This is flexible. The important power though, is that which lies with the established authority.

The boss/subordinate relationships are seen from two perspectives. First, the boss perspective is broken down into delegation, suggestions, competition with the boss, perception of subordinate's role by the boss, and perception of boss's role by the boss. As in any military organization,

the commander makes the decisions. But the commander cannot do all of the work, so it must be delegated. The Academy takes a hierarchic stand and delegates action to be reviewed and recommendations presented. The commanding officer makes the final decision. Others are viewed as data sources. The midshipman chain of command provides information to the Commandant, who makes the final decision. In competition with the boss, the Academy appears to be integrative. Cooperation is stressed in working with the officers. Most midshipmen feel that competition is not expected. The Plebe views himself as a doer and a limited source of information by the Academy. They are expected to perform. Midshipmen suggestions are taken into consideration and viewed as information in the making of major decisions. This is a hierarchic tendency. The officers of the Academy view their roles as teachers and advisors. This is integrative. The purpose of the Academy is to train midshipmen to be officers in the Naval Service. The officers assigned here are to provide practical knowledge of the Navy or the Marine Corps to help midshipmen when they receive their commission. Many midshipmen feel that the Academy is threatened by suggestions that do not fit into its own scheme. Ideas presented as suggestions are changed to fit this scheme or are not enacted. This is again hierarchic.

Evidence of upward communication, cooperation with the boss, the perception of the boss, and the need for downward communication make up the social aspect of the subordinate perspective. The evidence of upward communication is hierarchic. Midshipmen and Plebes send up required material. Impersonal reports are preferred. Plebes, particularly, are taught to give required information and answer just the question asked of them. The cooperation or competition with the boss from the Plebe's point of view is decisive. He is taught from the first moment here to be

obedient. He is not to compete with his superiors. When told to do something, the Plebe is expected to do it. To the Plebe, the command structure at the Academy is perceived to be "the boss" - the man in charge. Because of the military nature of the Academy, the seniors-in-command are the bosses. Those in command determine how the others will perform and what will be done. There is a definite need for downward communication here at the Academy. Because of the Academy training of midshipmen to be officers, there is a high need for structure and feedback. The midshipmen tend to be decisive in this area. Feedback on results is needed to improve each midshipman.

Lateral-peer relationships are broken down into cooperation versus competition, frequency of communication, and the preference for organizational design. As far as cooperation versus competition is concerned, the Plebes tend to be integrative. Most try to help each other when they can. But competition still exists. Midshipmen feel that all that one is able to attain here is based on competition with others. Frequency of communication between peers is again integrative in nature. There exists a high degree of communication between peers. This exists out of friendship and need to help each other when needed. The preference for organization design from the viewpoint of the Plebe is hierarchic. Most prefer a vertical control form which provides a broad span of control and allows more personal decision making. To the Plebe, the Academy is organized with a decisive tendency. This is a narrow span of control. The Plebe is controlled by all three upperclasses and also the officers.

Data gathering is broken down into the use of committees, the preferred mode of data gathering, and how negative feedback is handled. The use of committees by the Academy is seen as decisive by most midshipmen.

Directions are given to the committee and the results are received. Committees are used to gather information for someone. The preferred mode of data gathering is hierarchic. Elaborate reports or studies are encouraged. This does not necessarily mean colorful presentations, but rather centers on thoroughness. Reports and papers are expected to be thorough and well-prepared. Both the Academy and midshipmen in general handle negative feedback in a flexible manner. Midshipmen feel that negative feedback is to be avoided if possible, but if confronted with negative feedback, it will be accepted. Also, the Academy is perceived by midshipmen to have a great concern for public opinion and alumni opinion. Plebes, in particular, are taught to do the correct thing to avoid negative feedback.

Communication is an important aspect of the non-technical functions of management. Midshipmen receive information in a flexible style. They look for the action implication or pay-off in the first few minutes. After that, midshipmen appear to agree or be attentive, but cut off listening. Again, time is an important consideration. The Academy is decisive in its method of sending information. More often than not, communications are by instruction, form, or word of mouth. Generally, there is only one alternative presented. The sending style of the Academy is systematic. It is founded on results or facts. This is decisive. In being open with others, the Academy is decisive. Most midshipmen are as open as the system permits them to be. Position within the organization and rank principally determines how open people may be.

Planning and goal setting is divided into participation of others in decision making and individual versus organizational goals. For the Plebe, there is little of any kind of participation in the decision

making process. This is a decisive tendency. Plebes are expected to perform. All that affects them as far as regulations are concerned are decided upon and implemented by the upperclass or else the officers. As far as individual versus organizational goals are concerned, the Academy is integrative in that it tries to move both individual and organizational goals together. The midshipman's goal of becoming a Naval Officer and the Academy goal of producing a Naval Officer are merged as much as possible. Yet if a conflict exists between organizational and personal goals, the organization will prevail.

In motivating others, the Academy uses a combination of styles. The Academy is integrative in that it relates the motivation used to the type of person being motivated. Special privileges are given to those who perform well, while those who fail to perform are motivated by other means. Yet the overall method of motivating is decisive. Standards are set and failure is punished.

The Academy is hierarchic in the evaluation of midshipmen. The objective of the Naval Academy Aptitude system is to develop officer-like qualities in midshipmen and to ensure through periodic review of written evaluations, that each graduating midshipman possess sufficient aptitude to be commissioned as an officer in the Naval Service. Those midshipmen found to be weak in these qualities are identified and assisted in improving themselves through counsel and guidance. In essence, Midshipmen feel the evaluation system at the Academy is a systems analysis of a person to help him fit better into the system. They feel the individual must change, because the system will not.

The final social aspect of the Naval Academy to be analyzed is promotion. Again, the Academy appears to be decisive to most midshipmen.

Midshipmen are rarely promoted to positions of authority unless they do their job well and perform in the manner that is expected of them.

CONCLUSIONS AND RECOMMENDATIONS

As it was stated in the introduction to this paper, studies have shown that changes in decision styles can occur after prolonged exposure to an environment. The results of this study indicate that midshipmen do change decision styles. The change appears to be towards a decisive decision style. A logical explanation of this change would be the Academy environment experienced by the Plebe during his first year. By analyzing the Naval Academy from the point of view of the midshipmen, it was determined that the factors which could have brought about this change were (1) time constraints, (2) the Administrative Conduct System, (3) the Aptitude system, (4) the Plebe Indoctrination system, (5) Naval Academy Regulations, and (6) the orientation of the Naval Academy itself with respect to managerial/leadership functions.

In an effort to try and locate other possible causes for this apparent change in decision styles, a comparison of neurological output and personality/motivational characteristics to decision styles was made. In the case of neurological output in comparison to decision styles, it was found that in only 12 of 32 comparisons did significant differences exist. Four comparisons out of a total of ten showed significant differences when decision styles were compared to personality/motivational characteristics.

No connotations of good or bad should be attached to the findings of this study with respect to changes in decision style. Further study needs to be performed before such a decision can be reached. This study involved only one year in the four year program at the Academy. Further study is encouraged to determine if changes in decision style occur during the re-

maintaining three years that a midshipman attends the Naval Academy. Also, study is encouraged to determine what decision style would best operate in the junior officer ranks of the Navy and Marine Corps. Once it is known which style is best for the junior officer positions, the Academy can be evaluated to see if it prepares midshipmen to assume these positions with respect to decision style after graduation. This evaluation could be extended to include all officer programs in use by the Navy and Marine Corps today. Only after such studies can the change in decision style be interpreted as good or bad.

The comparison of decision styles to personality/motivational characteristics was limited by the fact that the upper twenty percent of each group was used in the comparison. This was done because the researcher recognized the fact that comparing entire groups in such characteristics, there is a tendency for significance to be removed due to the large grouping around the mean. It is suggested that further analysis be performed in this area in an effort to locate further significant results.

The portion of the study based on a sample size of 76 midshipmen is limited in applicability of results also. This is due to the size of the sample in relation to the population as a whole. The results that were found do indicate the need for more research in this area. The sample size should be expanded to be applicable to the entire population of the Class of 1977 or to the Academy as a whole.

The concept of decision styles and the implications of each style with respect to the managerial/leadership functions is applicable to the midshipmen of the Naval Academy.

"If you know a man's style, you can then assess his potential for certain jobs or industries. You can predict his reactions to stress. You can marshal appropriate incentives and use effective communications if you understand a man's decision style. It is a tool for use both to a supervisor in relation to subordinates and to each manager in relation to his career planning." 25

FOOTNOTES

- ¹ Michael Driver and Jack Lintott, Managerial Decision Diagnostics, University of Southern California, p.5.
- ² Ibid
- ³ Ibid
- ⁴ Ibid
- ⁵ Ibid
- ⁶ Ibid, p. 7
- ⁷ Ibid, p. 8
- ⁸ Ibid
- ⁹ Ibid
- ¹⁰ Ibid
- ¹¹ Ibid
- ¹² Ibid
- ¹³ Michael Driver and Jack Lintott, Decision Style Chart, University of Southern California, p. 1
- ¹⁴ Ibid
- ¹⁵ Driver, Managerial Decision Diagnostics, p.9
- ¹⁶ Ibid
- ¹⁷ Ibid
- ¹⁸ Michael J. Driver and Siegfried Streufert, "Integrative Complexity: An Approach to Individuals and Groups as Information Systems", Administrative Science Quarterly, June 1969, p. 274
- ¹⁹ Driver, Managerial Decision Diagnostics, p. 10.
- ²⁰ Ibid, p. 4
- ²¹ Ibid

- 22 Commandant of Midshipman Instruction 1531.2J, The Plebe Indoctrination System, (U. S. Naval Academy: 1 December 1974), p. 2-1.
- 23 Charles T. Clark and Lawrence L. Schkade, Statistical Methods For Business Decisions (Chicago: South-Western Publishing Co., 1969), p. 250.
- 24 Ibid, p. 470.
- 25 Driver, Managerial Decision Diagnostics, p. 4.

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APPENDIX A
DECISION STYLE CHART
Dr. M. Driver and Dr. J. Lintott

SUBJECT	ECOLOGICAL	FIELD	INTERMEDIATE	INTENSIVE
Style Description	Stability, critical, consistency, efficiency, achievement; simplicity, results, action-oriented style, certainty, and security.	Security thru adaptability; likes variety, simple, does things quickly; concerned with external values; concerned with style - how he does things; individualistic; action-oriented	Thinking-oriented; values info - it leads to a solution; focus on thoroughness, vigorous; perfectionist; not rigid around strategies; likes predictability; likes power; info-seeking, problem-solving, and control.	Info-orientation; thinker; problem-seeking interested in info for its own sake; creative; exploration and experimentation important; everything is relative.
Style Attributes				
A. Planning				
1. Scheduling	Enjoys	Avoids	Delights in preparing but not following	Considers scheduling no good
2. Deadlines	Considers this critical	Doesn't like deadlines	Resents if imposed from without but does set his own	Does not care about deadlines; ignores them
3. Time focus	Dislikes long-range planning	Avoids	Likes plans	Lays out long-range plans but will dump them
4. Contingencies	Doesn't have any but routine ones	Avoids; "plays it by ear"	Delights in elaborate plans	Uses many; back-up goals
5. Flexibility	Low	Ready to change plans anytime	Low in flexibility in goals; high on strategy	Very flexible in both goals and strategies
B. Goal-Setting				
1. Goal origins	External	Internally	Internally	Person needs and those of the organization
2. Number of goals	Very few	Many goals	One goal	Many goals
3. Tactics	One tactic; very persevering	Number of goals and tactics	Many tactics	Applies a tactic to several goals
C. Conduct of Research				
1. Amt. of data used	No research	No research	Much data	Much data

SUBJECT	DECISIVE	FLEXIBLE	HIERARCHIC	INTEGRATIVE
2. Source of data	External authority	Personal experience	Looks at piles of research data	Piles of info plus personal research
3. If new and starting, what is done with it?	Won't look at it	Will look at it	Tries to make it fit with his own perceptions	Tries to make it fit but if it won't, he alters his own scheme
4. Knowledge	Not interested; indifferent	Puts it into action; exploits it	Has trouble with it; threatens him	Thrives on it
5. How oriented toward world	Not	Won't go out of his way	Has the attitude of control over the environment	Views environment as a place to explore
D. Purchasing or Acquisition				
1. How goods and services are sought	Reactive; high brand loyalty	Changes products for variety	Active searcher; exhaustive; concerned with product improvement	Very active search strategy
2. Criteria used to select goods and services	Very few	Few	More criteria	Many criteria; almost too many
3. What criteria used	Ease; efficiency	Cost; tries to minimize costs;	Product quality	Variety; continually shifting
E. Information Storage				
1. What kind of storage?	Summary data	No info files wanted	Best user of MIS	"Pack Rat"
2. Kind of display preferred	"The answer"; Doesn't want any data	"The answer"; Doesn't want any data	Research report; methodology, data, answers; Operations Research man	Simulation of modeling
F. Problem-Solving				
1. Orientation to problem-solving	Short-run, operational problems; suppresses long range probs	Ducks problems	Classic problem-solver	Problem-finder

SUBJECT	DECISIVE	FLXIBLE	HIERARCHIC	INTERACTIVE
2. How long can they delay a solution?	Can't	Can delay a soln indefinitely	Methodical, but feels urgency about finishing	Indifferent to how long
3. How many sides of a problem are looked at?	One side	Sees it differently in different settings	Takes complicated but one-sided look	Sees it from many sides at one time
G. Control 1. Frequency of checking on opinions?	Continual focus on results	Exception rule	Frequent focus on "check-points" method	Uses infrequent formal control as feedback for the next round of planning for options; uses informal much more
2. Basis for control	Physical observation	Sporadic physical observation	Data is the basis for control; delights in forms, reports, etc.	Both data and personal interaction; likes to "poke around"
3. Amount of data used	Minimal; interested in results only	Little data	Uses a lot of "paper-work"	A lot but not formal
4. Reaction to error	Immediate response	Immediate response	Immediate response	Won't respond quickly but does deal with it; delights in errors
5. Nature of reaction	Corrects situation as quickly as possible; will exert much effort to do so	Eliminates error; if he can't, likely to back off	Tends to try to educate offenders; goes back to causes	Looks at total system and works up a new system - "debriefing"
6. What sets off reactions?	Productivity problems; short-term goals	Profit problems; static conditions; long term payoff	Deviations from upward trends; consistency; perfectionist	Deviations around norm; system development is the concern

SUBJECT	DECISIVE	FLEXIBLE	HIERARCHIC	INTEGRATIVE
Social Aspects				
A. Selection (Hiring) 1. How to get people into system	Simplicity; does not want a complicated selection system; wants immediate results from new hires; past experience important; tests	Direct assessment by personal interview; against tests; looks for similarities; very unsystematic and highly personalistic	Likes testing procedures; concerned about test validity but only validates it once; concerned with formal education	Uses a combination of procedures; interviews and testing including trial runs; looks for growth potential in new hires; tries to understand whole person
B. Manpower Development	Training problems; QJT technique; tech. skills and rules of job most significant	Learn by doing; no real structure; apprentice type relationship; T-Grouping	Systems, analysis of jobs and people; development of career patterns	Temporary team work; sensitivity training; personal skill development; emphasis on flexibility; makes people more integrative
C. Job Design	Rigid list of job behavior; list of duties; high structure; low job flexibility; job is key	High job flexibility; low structure; aversioned to job descriptions	Empirically developed job description; tries to find right man for job; uses personal psychology; usually very large companies	Abstract/qualitative analysis; man and job both flexible; constant reorganization
D. Organizing	Loyalty; common values; loyalty seen as obedience to authority	Mutual admiration/advantage; surface agreement (buddies)	Competence/respect	Trust; a conditional relationship/mutual understanding; empathy
2. Style compatibility in groups	H best; F next; I last (D-I combination is hopeless)	D or I; H hard to take	May not like other H's (depends on values) Likes D's if obedient; moderate attraction to I's; not keen on F's at all	H and F; can't take D's
3. Power	Established authority or tract record; coercive/punitive connotation	Personal charisma; manipulation of rewards	Informational competence formal status	Temporary info competence

SUBJECT	DECISIVE	FLEXIBLE	HIERARCHIC	INTEGRATIVE
2. Boss/Subordinate Relationships Boss Perspective 1. Delegation	Delegates action; checks on results; unintended planning delegation (some one fills vacuum and does the planning) - Eisenhower	Considerable delegation; little follow-up but one failure and you're out!	Illusion of delegation; reality is "do it yourself"; others are data sources only	Participation replaces delegation
2. Suggestions	Ignore	Perceives and gives credit	Threatened by suggestions unless they fit into his own scheme; changes ideas come out as his own	Suggestions are an invitation to a dialogue
3. Competition with boss	Considers disloyalty	An accepted risk	Expected and tolerated if not too strong; otherwise kept under control	Seeks cooperation; doesn't like competition
4. Perception of subordinate role by boss	Doer	Variable	Doer and limited source of info.	Colleague
5. Perception of boss' role by boss	Coordinator; facilitates action	Initiator; "spark plug"	Planner	Teacher/advisor
Subordinate Perspective 1. Incidence of upward communication	Not much unless things go well; relates only positive info	Very subjective; tells boss what he wants to hear; desires to please	Sends up required mat'l; prefers impersonal empirical reports; volunteers views if he leads to control of implementation of his opinions	Constant flow of creative suggestions; high data; overloads the boss, but not consciously
2. Cooperation or competition with boss	None; obedient	Surface cooperation; copies boss; which can look like competition	High competition; where feasible	Cooperative

SUBJECT	DECISIVE	FLEXIBLE	HIERARCHIC	INTEGRATIVE
3. Perception of Boss	"The Boss" - the man in charge	If Boss is: D-"Central man" F-Synthesizer H-Architect I-Creator	If Boss is: D/H-"Dictator" F-Supporter I-advisor	Accepts Boss' self definition but has trouble with decisions concept
4. Need for downward communication	Very high-need for structure and feedback - accepts proper authority	Need for feedback on results but not for control info (instructions) - (resents overt control-- phrase it as a suggestion)	High only for information doesn't want orders, own instructions, etc.	High for info at request - seeks to understand boss' motives
Lateral-Peer Relationships				
1. Cooperation vs. competition	Isolationist: if pressed he is competitive	Little hook-up; if pressed, he is cooperative	Competitive (unless his values are different)	Cooperative
2. Frequency of communication	Low	Low	Variable	High
3. Preference for organizational design	Vertical; narrow span of control	Loner	Vertical; broad control	Lateral; "Democratic"
Gathering Data From Others				
1. Use of committees or meetings	Give direction; receiving results	Initial organizing of motives (if social values; occasional consensus)- unsystematic, situational groupings	Gather info; control and organize	Make participative decisions
2. Preferred mode of Data Gathering	Simple result report forms; formal report forms; avoidance of direct contact with people	Direct contact; 1 to 1	Elaborate reports or studies	Team meetings
3. Handling negative feedback of data	Defensive if feedback has some power or authority - silent rejection	Avoids if possible - if confronted - accepts	Welcomes it if he can argue or contradict it - tends to assign problems to other's incompetency or error	Responds well and will go out of his way to find negative data or feedback - comfortable with criticism or failure

SUBJECT	DECISIVE	FLEXIBLE	HIERARCHIC	INTEGRATIVE
F. Communication				
1. Reception of information (listening/reading style)	Takes in for first few minutes - looks for action implications and agreement with his own point of view. After several minutes, cut off listening appears to be listening but is not	Takes for a while - looks for action implication or payoff - appears to agree but after a while cuts off listening	Listens all the way but tries to fit to his own views - "evaluates" and argues a lot.	Listens - tries to understand senders message - connects ideas received with other ideas to complete a picture
2. Best method of sending	Simple results/payoff - avoid methodology, inductive approach - formal document better than verbal give only ONE alternative	Verbal better than formal document - give several possibilities or actions	Problem; theoretical solns - methods of soln and result - report best touch proper hierarchic basis. Key: how problem solved - give best alternative first followed by other alternatives and why they aren't best	Verbal problem first followed by variety of theories and methods Key: how to go about solving an area problem; or probing an area - discuss best solns
3. Sending style	Routine, non-analytic. Results, facts focus-systematic	Variable, non-routine facts, results focus	Analytical, thorough - facts, causes, conclusions and rec.	Exploratory, analytic - plays with problems - not really analysis
4. Attitude toward manipulation in communication	Negative; except to filter out failure - usually very honest	Suit what is said to what object wants - tells other person what he thinks he wants to hear	Sometimes unconsciously weighs data to support his own position	Tactics designed to get out all sides of an issue-frees - up people from bias. Takes odd positions to bring out everything - plays Devils Advocate.
5. "Openness with others"	As much as "system" permits (usually not much)	If at all, superficially-facade	Closed, careful, guarded except where he sees total agreement - uncomfortable with openness	Situational openness - functions of other persons ability to take openness, his intent, power, etc.

SUBJECT	DECISIVE	FLEXIBLE	HIERARCHIC	INTEGRATIVE
G. Planning and Goal Setting				
1. Participation of others in decision-making	Little of any kind	"Pseudo-democracy" No real participation - but wants to make people feel like they are	Others contribute data only - "pseudo-democracy"	Total participation
2. Individual vs. organizational goals	Individual goals inappropriate; "organizational goals become your goals"	Superficial acceptance of organizational goals - private reservation - really pursuing his goals	Tries to influence organizational goals. Often only lip service to organizational goals.	Tries to move both organizational goals and personal goals together.
H. Motivating Others	Set standards; punish failure	Payoffs, incentives, profit-sharing	Authority of info-proves correctness of orders or commands. Tells you why his way is best.	Relate motivation used to type of person being motivated.
I. Conflict Resolution	Initially he ignores. If powerful, and opponent not needed, decisive will kill. When settling disputes, he tries to impose his own soln. (But tries to avoid)	Avoids by seeming to agree - backs off runs around and tries another route. Advises parties to "work it out".	At least two types of conflict: Intellectual; he argues, seeks out new data - pugnacious, tough. Interpersonal; avoids - afraid In solving problems between subordinates, he gets data from each side and then tells each party individually - people usually accept his decisions - he avoids confrontations	If Intellectual, may seek data to open up all facets. If Interpersonal, probes reasons/strives for tolerance of differences He uses confrontation method to resolve conflict between two subordinates - acts as a mediator
J. Evaluation (Gripping)	Tends to avoid. If needed, conscious effort to concern himself with action errors and repeats standards - no analysis of strengths and weaknesses.	Tends to avoid. If needed, stresses the positive - if headed for disaster, you'll never be told.	Uses data on task. References to system needs - done in an impersonal, cool fashion. Really a systems analysis of a person to help him fit into the system better - "you change"	Impersonal; analytic Person-to-person interface; how improved - basically receptive to system and person changes - "you change and we'll change"

SUBJECT	DECISIVE	FLEXIBLE	HIERARCHIC	INTIGRATIVE
K. Promotion	Volume achievement and conformity to procedure.	Personal congruence - Results	Effective methods, competence (may be way of highly competent, threatening subordinate)	Team contribution - results in individual growth
Background of Style (all else equal)				
A. Family 1. Size	If it is large overload, he will be decisive (and if he is younger child)	Not an only child	Only child or oldest	Moderate sized family
2. Parental Influence	Decisive parents - very strong hierarchic - no childhood independence	Flexible parents - permissiveness; anarchic conditions - no order or structure; strongly different parents	Hierarchic parents who permit/encourage autonomy; controlled exploration of environment by child - authority retained by parents	Integrative parents/ two hierarchic parents with different points of view - shared control; exploration not provided; not permissive
3. Belief system	Strong and simple - fundamentalist Christian	No beliefs; or intense disagreement with no resolution	One strong complex belief system	Variety of strong beliefs presented as an ongoing process - changing beliefs
4. Reading material available	Little variety; little value of material - TV is entertainment; an escape. It may be on all the time. Radio: AM pop music	Constant variety - (Playboy) TV-variety; less consistent watching of serials; rock music and folk	Lots of reading material focused around some topic TV-news, info, doc; contempt for normal TV programming. Radio: classical	Piles of reading material of all sorts; TV-variety of purposes Radio: mixed up Danger - overloading children
B. Education 1. Amount	Low	Low	Very high-maximized by doctorate	High level - beyond MBA will shift to hierarchic
2. Type of education	Marine Corps - Unilateral action oriented; consistent	Variety or experiences - no pattern but unilateral in emphasis	Very consistent, highly advanced education in one system; uses discussion and socratic	Interdependent - Exploration common; creativity pushed,

SUBJECT	DECISIVE	FLEXIBLE	HIERARCHIC	INTEGRATIVE
5. Level of success	Positive reinforcement in lower grades - good grades - crunch in high school (hierarchical) so bad results	Least happy with school - miserable experience - least likely to be successful	Best time in school; positive experience a'l the way (except in grade school)	Challenge system - Harvard is a good place - Einstein is a good example
4. Extra-curricular activities	Very few - a deer; attracted by sports	Pattern of short, temporary connections with groups - individual sports	Will be leader - student gov't. or intellectual groups	Lots of activities - communications and group efforts
C. Community				
1. Size	Very small or very big	Extremely large	Moderate size (LA)	Moderate size
2. School size	Very large or small	Large schools	Moderate sized schools	Moderate sized schools
3. Number of communities lived in	Single town	Many towns	Moved some but not much	Many moves
D. Jobs				
1. Variety of jobs	Not varied	Many jobs	Moderately low variety	Moderately high variety
2. People met	Similar to self	Widely different	Similar	Different
3. Level of job	Lower level jobs	Lower level jobs	Higher level jobs	Higher level jobs

APPENDIX B
COMPUTER PROGRAMS

COUNT 14 MAR 75 17:40

```
10 FILE#1: "STYLE73"
20 MARGIN#1: 80
30 DIM S$(4)
40 RESET#1
50 PRINT
60 PRINT
70 INPUT#1: S$
80
90 LET A$=SEG$(S$,1,6)
100 LET N$=SEG$(S$,8,23)
110 LET C$=SEG$(S$,25,26)
120 LET S1$=SEG$(S$,60,60)
130 LET S1=VAL(S1$)
140 LET N=N+1
145 IF S1=1 THEN 190
150 IF S1=2 THEN 210
160 IF S1=3 THEN 230
170 IF S1=4 THEN 250
180 IF S1=5 THEN 270
190 LET Q=Q+1
200 GO TO 280
210 LET R=R+1
220 GO TO 280
230 LET S=S+1
240 GO TO 280
250 LET T=T+1
260 GO TO 280
270 LET U=U+1
280 IF END#1 THEN 290
285 GO TO 70
290 PRINT
300 PRINT "NO. OF D=";Q
310 PRINT "NO. OF F=";R
320 PRINT "NO. OF H=";S
330 PRINT "NO. OF I=";T
340 PRINT "NO. OF IN=";U
350 PRINT "TOTAL=";N
999 END
READY
```

LIST

COMPARE 14 MAR 75 17:42

```
10 PRINT "INPUT THE NO. OF OBS. AND N OF BOTH POPULATIONS"
20 INPUT X1,N1,X2,N2
30 LET P1=X1/N1
40 LET P2=X2/N2
50 LET K=(X1+X2)/(N1+N2)
60 LET S=SQR((((1-K)*K)/N1)+((((1-K)*K)/N2))
70 LET Z=((P1-P2)/S)
80 PRINT "Z IS",Z
999 END
READY
```

```

27
100 DIM X(2000), Y(2000)
105 PRINT "INPUT THE NAMES OF THE TWO FILES.";
106 INPUT A$,B$
107 PRINT
108 PRINT "WHAT IS THE POSITION OF SCORE IN EACH LINE OF FILE?";
110 INPUT X1,Y1
120 FILE #1: A$
130 FOR I = 1 TO 2000
140 LINPUT #1:C$
150 LET X(I) = VAL(SEG$(C$,X1,Y1))
160 LET S = S + X(I)
170 LET U = U + X(I)*X(I)
180 LET L1 = L1 + 1
190 IF END #1 THEN 210
200 NEXT I
210 FILE #2:B$
220 FOR J = 1 TO 2000
230 LINPUT #2:D$
240 LET Y(J) = VAL(SEG$(D$,X1,Y1))
250 LET T = T + Y(J)
260 LET V = V + Y(J)*Y(J)
270 LET L2 = L2 + 1
280 IF END #2 THEN 300
290 NEXT J
300 LET L3 = L1 + L2
302 LET V1 = 1
304 LET V2 = L3-2
306 LET V3 = L3-1
320 LET H=T+S
325 LET O=U+V
330 LET K=H*H/L3
340 LET L=O-K
350 LET C=S*S/L1+T*T/L2-H*H/L3
360 LET E=U+V-S*S/L1-T*T/L2
370 LET Q=C/V1
380 LET R=E/V2
390 LET F=Q/R
400 LET W=S/L1
410 LET Y1=T/L2
420 LET Z=(1/(L1-1))*(U-L1*W*W)
430 LET Z=SQR(Z)
440 LET D=(1/(L2-1))*(V-L2*Y1*Y1)
450 LET D=SQR(D)
490 PRINT
500 PRINT "          DEGREES OF FREEDOM"
510 PRINT
520 PRINT "AMONG COLUMNS (V1)", V1
530 PRINT "ERROR WITHIN (V2)", V2
540 PRINT "TOTAL (V3)", V3
545 PRINT
546 PRINT
550 PRINT "          MEAN", "          STANDARD DEVIATIONS"
555 PRINT
560 PRINT "GROUP #1","GROUP #2","GROUP #1","GROUP #2","F"
565 PRINT
570 PRINT W, Y1, Z, D, F,
999 END
READY

```

APPENDIX C

DATA SHEETS FOR NEUROLOGICAL OUTPUT ANALYSIS

Name _____, _____ Alpha # _____ Co. _____ Date _____ 66
Last First
Smoke _____ R or L handed _____ Eaten within 4 hours _____ Phys Cond _____

L&R EEG 1/2 amp lo freq = 1 Hz Pulse 1/2 amp lo freq = .1 Hz
1/2 amp hi freq = 10 Khz 1/2 amp hi freq = .1 Khz ~~CM HP Scope SW~~
Sensitivity = 5 Sensitivity = 15

Periods: 1-1900-2000, 2-2000-2045, 3-2045-2130, 4-2130-2215, 5-2215-2300, 6-2300-2345

KM put left and right EEG channels as well as pulse in the 50uv calibration position.

KM RECORD .5 min of calibration pulses on V tape # _____ Side # _____ & HP tape # _____

KM return L & R EEG channels and pulse to use position. CM turn off HP Scope 1.3.4.5.7.8

KM apply electrodes. CH hook leads to terminals.

SM takes pulse: Beats/30sec x 2 = _____ CH takes BP: Sys = _____

KM review testing procedures - subject sees own EEG. Dys = _____

SM faces subject to door. KM puts ear silencers on. Dif = _____ SM attaches pulse.

CH tells subject to relax and close his eyes. CH puts strobe in front of subject.

CM puts HP Scope 1,3,4,5,7,8 back on. KM operates V and CM operates HP.

RECORD 3 min of spectral analysis. V start _____ end _____ & HP start _____ end _____

KM strobe for .75 min @ 11.5, 14, 16.5, 19, 21.5, 11.5 V end _____ & HP end _____

KM TURN OFF STROBE. CM turn of HP 1,3,4,5,7,8 and hi start/stop on both correlators.

CH tells subject to open eyes. KM takes off ear silencers. SM unhooks pulse & leads/tapes.

CH runs Harvard Step Test.

SIMULTANEOUSLY

KM puts silencers on. CH tells subject to close eyes.

SM takes pulse: Beats/30 sec = _____ CH takes BP: Sys = _____ KM hooks up.

+ 1 min = _____ Dys = _____

+ 2 min = _____ Dif = _____

Sum = _____

SM attach pulse. CH put strobe in front of subject and tell him to relax and close eyes.

RECORD 1 min of spectral analysis. V start _____ end _____ & HP start _____ end _____

KM strobe for .75 min @ 11.5, 14, 16.5, 19, 21.5, 11.5 V end _____ & HP end _____

KM TURN OFF STROBE. KM takes off ear silencers. KM unhooks leads. SM removes pulse.

SM gives box lunch and cleans up subject and leads. SM returns leads to lab.

KM puts controls in playback position and checks last bit of recording.

KM resets ALL controls and switches to recording positions. Advance tapes 5 counts.

Before HST remarks:

Possible TPS =

After HST remarks:

Possible TPS =

MIDSHIPMAN ALPHA # 77

M NAME:

Co.

M SUBJECT #

1 1/2 SEMESTERS CQPR =

APT =

PE =

CONDUCT =

F. B. #

BP BEFORE HST = Sys _____ Dvs _____ Dif _____ PULSE BEFORE HST # _____

AFTER HST = Sys _____ Dvs _____ Dif _____ AFTER HST = _____ 0 MIN. _____

DIFFERENCE = Sys _____ Dvs _____ Dif _____ Dif = _____ +1 MIN. _____
_____ +2 MIN. _____

V CEEB = _____ M CEEB = _____ DS = _____ TPS L = _____ TPS R = _____ SUM _____

R OR L HANDED _____ SMOKE _____ TESTING DATE _____ BIRTHDAY _____

BIOR: "0" _____ "20" _____ "30" _____ REMARKS _____

LEFT AND RIGHT L = 01, 03, 05 ETC. R = 02, 04, 06 ETC. REMARKS

01 - 64 AVERAGES TAKEN AFTER 1 MINUTE - - 02 - - DURING 3 MIN. REST PERIOD BEFORE HST

03 - 32 AVERAGES WHILE STROBE @ 11.5	04 - 32 AVERAGES WHILE STROBE @ 11.5
05 - DITTO 14.0	06 - DITTO 14.0
07 - DITTO 16.5	08 - DITTO 16.5
09 - DITTO 19.0	10 - DITTO 19.0
11 - DITTO 21.5	12 - DITTO 21.5
13 - DITTO 11.5	14 - DITTO 11.5

15 - 64 AVERAGES TAKEN FROM BEGINNING - - 16 - - OF 1 MIN. REST PERIOD AFTER HST

17 - 32 AVERAGES WHILE STROBE @ 11.5	18 - 32 AVERAGES WHILE STROBE @ 11.5
19 - DITTO 14.0	20 - DITTO 14.0
21 - DITTO 16.5	22 - DITTO 16.5
23 - DITTO 19.0	24 - DITTO 19.0
25 - DITTO 21.5	26 - DITTO 21.5
27 - DITTO 11.5	28 - DITTO 11.5

<u>LEFT</u>					<u>TPS BEFORE HST</u>		<u>RIGHT</u>				
11.5	14.0	16.5	19.0	21.5	11.5	11.5	14.0	16.5	19.0	21.5	11.5
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
11.5	14.0	16.5	19.0	21.5	11.5	11.5	14.0	16.5	19.0	21.5	11.5
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

REMARKS:

APPENDIX D
EXPLANATION OF PERSONALITY/MOTIVATIONAL CHARACTERISTICS

CAPSULE DESCRIPTIONS OF THE SIXTEEN PRIMARY AND FOUR SECOND-ORDER PERSONALITY FACTORS

FACTOR A

RESERVED, DETACHED, CRITICAL, COOL

vs. OUTGOING, WARMHEARTED, EASY-GOING,
PARTICIPATING

THE PERSON WHO SCORES LOW (STEN OF 1 TO 3) ON FACTOR A TENDS TO BE STIFF, COOL, SKEPTICAL, AND ALOOF. HE LIKES THINGS RATHER THAN PEOPLE, WORKING ALONE, AND AVOIDING COMPROMISES OF VIEWPOINTS. HE IS LIKELY TO BE PRECISE AND "RIGID" IN HIS WAY OF DOING THINGS AND IN PERSONAL STANDARDS, AND IN MANY OCCUPATIONS THESE ARE DESIRABLE TRAITS. HE MAY TEND, AT TIMES, TO BE CRITICAL, OBSTACULAR, OR HARD.

THE PERSON WHO SCORES HIGH (STEN OF 8 TO 10) ON FACTOR A TENDS TO BE GOODNATURED, EASY-GOING, EMOTIONALLY EXPRESSIVE, READY TO COOPERATE, ATTENTIVE TO PEOPLE, SOFTHEARTED, KINDLY, ADAPTABLE. HE LIKES OCCUPATIONS DEALING WITH PEOPLE AND SOCIALLY-IMPRESSIVE SITUATIONS. HE READILY FORMS ACTIVE GROUPS. HE IS GENEROUS IN PERSONAL RELATIONS, LESS AFRAID OF CRITICISM, BETTER ABLE TO REMEMBER NAMES OF PEOPLE.

FACTOR B

LESS INTELLIGENT, CONCRETE-THINKING
(LOWER SCHOLASTIC MENTAL CAPACITY)

vs. MORE INTELLIGENT, ABSTRACT-THINKING, BRIGHT
(HIGHER SCHOLASTIC MENTAL CAPACITY)

THE PERSON SCORING LOW ON FACTOR B TENDS TO BE SLOW TO LEARN AND GRASP, DULL, GIVEN TO CONCRETE AND LITERAL INTERPRETATIONS. HIS DULLNESS MAY BE SIMPLY A REFLECTION OF LOW INTELLIGENCE, OR IT MAY REPRESENT POOR FUNCTIONING DUE TO PSYCHOPATHOLOGY.

THE PERSON WHO SCORES HIGH ON FACTOR B TENDS TO BE QUICK TO GRASP IDEAS, A FAST LEARNER, INTELLIGENT. THERE IS SOME CORRELATION WITH LEVEL OF CULTURE, AND SOME WITH ALERTNESS. HIGH SCORES CONTRAINDICATE DETERIORATION OF MENTAL FUNCTIONS IN PATHOLOGICAL CONDITIONS.

FACTOR C

AFFECTED BY FEELINGS, EMOTIONALLY LESS
STABLE, EASILY UPSET

vs. EMOTIONALLY STABLE, FACES REALITY, CALM,
MATURE

THE PERSON WHO SCORES LOW ON FACTOR C TENDS TO BE LOW IN FRUSTRATION TOLERANCE FOR UNSATISFACTORY CONDITIONS, CHANGEABLE AND PLASTIC, EVADING NECESSARY REALITY DEMANDS, NEUROTICALLY FATIGUED, FRETFUL, EASILY EMOTIONAL AND ANNOYED, ACTIVE IN DISSATISFACTION, HAVING NEUROTIC SYMPTOMS (PHOBIAS, SLEEP DISTURBANCES, PSYCHOSOMATIC COMPLAINTS). LOW FACTOR C SCORE IS COMMON TO ALMOST ALL FORMS OF NEUROTIC AND SOME PSYCHOTIC DISORDERS.

THE PERSON WHO SCORES HIGH ON FACTOR C TENDS TO BE EMOTIONALLY MATURE, STABLE, REALISTIC ABOUT LIFE, UNRUFFLED, POSSESSING EGO STRENGTH, BETTER ABLE TO MAINTAIN SOLID GROUP MORALE. SOMETIMES HE MAY BE A PERSON MAKING A RESIGNED ADJUSTMENT TO UNSOLVED EMOTIONAL PROBLEMS.

FACTOR E

HUMBLE, MILD, ACCOMMODATING,
CONFORMING

vs. ASSERTIVE, INDEPENDENT, AGGRESSIVE,
STUBBORN

THE PERSON WHO SCORES LOW ON FACTOR E TENDS TO GIVE WAY TO OTHERS, TO BE DOCTILE, AND TO CONFORM. HE IS OFTEN DEPENDENT, CONFESSING, ANXIOUS FOR OBSESSIONAL CORRECTNESS. THIS PASSIVITY IS PART OF MANY NEUROTIC SYNDROMES.

THE PERSON WHO SCORES HIGH ON FACTOR E IS ASSERTIVE, SELF-ASSURED, AND INDEPENDENT-MINDED. HE TENDS TO BE AUSTERE, A LAW TO HIMSELF, HOSTILE OR EXTRAPUNITIVE, AUTHORITARIAN (MANAGING OTHERS), AND DISREGARDS AUTHORITY.

FACTOR F

SOBER, PRUDENT, SERIOUS, TACITURN

vs. HAPPY-GO-LUCKY, IMPULSIVELY LIVELY,
GAY, ENTHUSIASTIC

THE PERSON WHO SCORES LOW ON FACTOR F TENDS TO BE RESTRAINED, RETICENT, INTROSPECTIVE. HE IS SOMETIMES PESSIMISTIC, UNDULY DELIBERATE, AND CONSIDERED SMUG AND PRIMLY CORRECT BY OBSERVERS. HE TENDS TO BE A SOBER, DEPENDABLE PERSON.

THE PERSON WHO SCORES HIGH ON THIS TRAIT TENDS TO BE CHEERFUL, ACTIVE, TALKATIVE, FRANK, EXPRESSIVE, EFFERVESENT, CAREFREE. HE IS FREQUENTLY CHOSEN AS AN ELECTED LEADER. HE MAY BE IMPULSIVE.

FACTOR G

EXPEDIENT, EVADES RULES, FEELS FEW
OBLIGATIONS

vs. CONSCIENTIOUS, PERSEVERING, STAIID,
RULEBOUND

THE PERSON WHO SCORES LOW ON FACTOR G TENDS TO BE UNSTEADY IN PERSON. HE IS OFTEN CASUAL AND LACKING IN EFFORT FOR GROUP UNDERTAKINGS AND CULTURAL DEMANDS. HIS FREEDOM FROM GROUP INFLUENCE MAY LEAD TO ANTI-SOCIAL ACTS, BUT AT TIMES MAKES HIM MORE EFFECTIVE, WHILE HIS REFUSAL TO BE BOUND BY RULES CAUSES HIM TO HAVE LESS SOMATIC(BODY) UPSET FROM STRESS.

THE PERSON WHO SCORES HIGH ON FACTOR G TENDS TO BE EXACTING IN CHARACTER, DOMINATED BY SENSE OF DUTY, PERSEVERING, RESPONSIBLE, PLANFUL. HE IS USUALLY CONSCIENTIOUS AND MORALISTIC, AND HE PREFERS HARD-WORKING PEOPLE TO WITTY COMPANIONS.

FACTOR H

SHY, RESTRAINED, DIFFIDENT, TIMID

vs. VENTURESOME, SOCIALLY-BOLD, UNINHIBITED,
SPONTANEOUS

THE PERSON WHO SCORES LOW ON THIS TRAIT TENDS TO BE SHY, WITHDRAWING, CAUTIOUS, RETIRING, A "WALLFLOWER." HE TENDS TO BE SLOW AND IMPEDED IN SPEECH AND IN EXPRESSING HIMSELF, DISLIKES OCCUPATIONS WITH PERSONAL CONTACTS, PREFERENCES ONE OR TWO CLOSE FRIENDS TO LARGE GROUPS, AND IS NOT GIVEN TO KEEPING IN CONTACT WITH ALL THAT IS GOING ON AROUND HIM.

THE PERSON WHO SCORES HIGH ON FACTOR H IS SOCIABLE, BOLD, READY TO TRY NEW THINGS, SPONTANEOUS, AND ABUNDANT IN EMOTIONAL RESPONSE. HIS "THICK-SKINNEDNESS" ENABLES HIM TO FACE WEAR AND TEAR IN DEALING WITH PEOPLE AND GRUELING EMOTIONAL SITUATIONS, WITHOUT FATIGUE. HOWEVER, HE CAN BE CARELESS OF DETAIL, IGNORE DANGER SIGNALS, AND CONSUME MUCH TIME TALKING. HE TENDS TO BE "PUSHY" AND ACTIVELY INTERESTED IN THE OPPOSITE SEX.

FACTOR I

TOUGH-MINDED, SELF-RELIANT, REALISTIC, VS. TENDER-MINDED, OVER-PROTECTED, SENSITIVE
NO-NONSENSE

THE PERSON WHO SCORES LOW ON FACTOR I TENDS TO BE PRACTICAL, REALISTIC, MASCUINE, INDEPENDENT, RESPONSIBLE, BUT SKEPTICAL OF SUBJECTIVE CULTURAL ELABORATIONS. HE IS SOMETIMES UNMOVED, HARD, CYNICAL, SMUG. HE TENDS TO KEEP A GROUP OPERATING ON A PRACTICAL AND REALISTIC "NO-NONSENSE" BASIS.

THE PERSON WHO SCORES HIGH ON FACTOR I TENDS TO BE TENDER-MINDED, DAY-DREAMING, ARTISTIC, FASTIDIOUS, FEMINE. HE IS SOMETIMES DEMANDING OF ATTENTION AND HELP, IMPATIENT, DEPENDENT, IMPRACTICAL. HE DISLIKES CRUDE PEOPLE AND ROUGH OCCUPATIONS. HE TENDS TO SLOW UP GROUP PERFORMANCE, AND TO UPSET GROUP MORALE BY UNREALISTIC FUSSINESS.

FACTOR L

TRUSTING, ADAPTABLE, FREE OF JEALOUSY, VS. SUSPICIOUS, SELF-OPINATED, HARD TO FOOL
EASY TO GET ON WITH

THE PERSON WHO SCORES LOW ON FACTOR L TENDS TO BE FREE OF JEALOUS TENDENCIES, ADAPTABLE, CHEERFUL, UN-COMPETITIVE, CONCERNED ABOUT OTHER PEOPLE, A GOOD TEAM WORKER.

THE PERSON WHO SCORES HIGH ON FACTOR L TENDS TO BE MISTRUSTING AND DOUBTFUL. HE IS OFTEN INVOLVED IN HIS OWN SELF, IS SELF-OPINIONATED AND INTERESTED IN INTERNAL, MENTAL LIFE. HE IS USUALLY DELIBERATE IN HIS ACTIONS, UNCONCERNED ABOUT OTHER PEOPLE, A POOR TEAM MEMBER.

FACTOR M

PRACTICAL, CAREFUL, CONVENTIONAL,
REGULATED BY EXTERNAL REALITIES,
PROPER

VS. IMAGINATIVE, WRAPPED UP IN INNER URGENCIES,
CARELESS OF PRACTICAL MATTERS, BOHEMIAN

THE PERSON WHO SCORES LOW ON FACTOR M TENDS TO BE ANXIOUS TO DO THE RIGHT THINGS, ATTENTIVE TO PRACTICAL MATTERS, AND SUBJECT TO THE DICTATION OF WHAT IS OBVIOUSLY POSSIBLE. HE IS CONCERNED OVER DETAIL, ABLE TO KEEP HIS HEAD IN EMERGENCIES, BUT SOMETIMES UNIMAGINATIVE.

THE PERSON WHO SCORES HIGH ON FACTOR M TENDS TO BE UNCONVENTIONAL, UNCONCERNED OVER EVERYDAY MATTERS, BOHEMIAN, SELF-MOTIVATED, IMAGINATIVELY-CREATIVE, CONCERNED WITH "ESSENTIALS," AND OBLIVIOUS OF PARTICULAR PEOPLE AND PHYSICAL REALITIES. HIS INNER-DIRECTED INTERESTS SOMETIMES LEAD TO UNREALISTIC SITUATIONS ACCOMPANIED BY EXPRESSIVE OUTBURSTS. HIS INDIVIDUALITY TENDS TO CAUSE HIM TO BE REJECTED IN GROUP ACTIVITIES.

FACTOR N

FORTHRIGHT, NATURAL, ARTLESS, SENTIMENTAL VS. SHREWD, CALCULATING, WORDLY, PENETRATING

THE PERSON WHO SCORES LOW ON FACTOR N TENDS TO BE UNSOPHISTICATED, SENTIMENTAL, AND SIMPLE. HE IS SOMETIMES CRUDE AND AWKWARD, BUT EASILY PLEASED AND CONTENT WITH WHAT COMES, AND IS NATURAL AND SPONTANEOUS.

THE PERSON WHO SCORES HIGH ON FACTOR N TENDS TO BE POLISHED, EXPERIENCED, WORDLY, SHREWD. HE IS OFTEN HARDHEADED AND ANALYTICAL. HE HAS AN INTELLECTUAL, UNSENTIMENTAL APPROACH TO SITUATIONS, AN APPROACH AKIN TO GYNICISM.

FACTOR 0

72

PLACID, SELF-ASSURED, CONFIDENT, SERENE VS. APPREHENSIVE, WORRYING, DEPRESSIVE, TROUBLED

THE PERSON WHO SCORES LOW ON FACTOR 0 TENDS TO BE PLACID, WITH UNSHAKABLE NERVE. HE HAS A MATURE, UNANXIOUS CONFIDENCE IN HIMSELF AND HIS CAPACITY TO DEAL WITH THINGS. HE IS RESILIENT AND SECURE, BUT TO THE POINT OF BEING INSENSITIVE OF WHEN A GROUP IS NOT GOING ALONG WITH HIM, SO THAT HE MAY EVOKE ANTI-PATHIES AND DISTRUST.

THE PERSON WHO SCORES HIGH ON FACTOR 0 TENDS TO BE DEPRESSED, MOODY, A WORRIER, FULL OF FOREBODING, AND BROODING. HE HAS A CHILDLIKE TENDENCY TO ANXIETY IN DIFFICULTIES. HE DOES NOT FEEL ACCEPTED IN GROUPS OR FREE TO PARTICIPATE. HIGH FACTOR 0 SCORE IS VERY COMMON IN PERSONS OF ALL TYPES WHO SEEK PSYCHOLOGICAL HELP.

FACTOR Q₁

CONSERVATIVE, RESPECTING ESTABLISHED IDEAS, TOLERANT OF TRADITIONAL DIFFICULTIES VS. EXPERIMENTING, CRITICAL, LIBERAL, ANALYTICAL, FREE-THINKING

THE PERSON WHO SCORES LOW ON FACTOR Q₁ IS CONFIDENT IN WHAT HE HAS BEEN TAUGHT TO BELIEVE, AND ACCEPTS THE "TRIED AND TRUE," DESPITE INCONSISTENCIES, WHEN SOMETHING ELSE MIGHT BE BETTER. HE IS CAUTIOUS AND COMPROMISING IN REGARD TO NEW IDEAS. THUS, HE TENDS TO OPPOSE AND POSTPONE CHANGE, IS INCLINED TO GO ALONG WITH TRADITION, IS MORE CONSERVATIVE IN RELIGION AND POLITICS, AND TENDS NOT TO BE INTERESTED IN ANALYTICAL "INTELLECTUAL" THOUGHT.

THE PERSON WHO SCORES HIGH ON FACTOR Q₁ TENDS TO BE INTERESTED IN INTELLECTUAL MATTERS AND HAS DOUBTS ON FUNDAMENTAL ISSUES. HE IS SKEPTICAL AND INQUIRING REGARDING IDEAS, EITHER OLD OR NEW. HE TENDS TO BE MORE WELL INFORMED, LESS INCLINED TO MORALIZE, MORE INCLINED TO EXPERIMENT IN LIFE GENERALLY, AND MORE TOLERANT OF INCONVENIENCE AND CHANGE.

FACTOR Q₂

GROUP-DEPENDENT, A "JOINER" AND SOUND FOLLOWER VS. SELF-SUFFICIENT, PREFERS OWN DECISIONS, RESOURCEFUL

THE PERSON WHO SCORES LOW ON FACTOR Q₂ PREFERS TO WORK AND MAKE DECISIONS WITH OTHER PEOPLE, LIKES AND DEPENDS ON SOCIAL APPROVAL AND ADMIRATION. HE TENDS TO GO ALONG WITH THE GROUP AND MAY BE LACKING IN INDIVIDUAL RESOLUTION. HE IS NOT NECESSARILY GREGARIOUS BY CHOICE; RATHER HE NEEDS GROUP SUPPORT.

THE PERSON WHO SCORES HIGH ON FACTOR Q₂ IS TEMPERAMENTALLY INDEPENDENT, ACCUSTOMED TO GOING HIS OWN WAY, MAKING DECISIONS AND TAKING ACTION ON HIS OWN. HE DISCOUNTS PUBLIC OPINION, BUT IS NOT NECESSARILY DOMINANT IN HIS RELATIONS WITH OTHERS. HE DOES NOT DISLIKE PEOPLE BUT SIMPLY DOES NOT NEED THEIR AGREEMENT OR SUPPORT.

FACTOR Q₃

UNDISCIPLINED SELF-CONFLICT, CARELESS OF PROTOCOL, FOLLOWS OWN URGES VS. CONTROLLED, SOCIALLY-PRECISE, FOLLOWING SELF-IMAGE

THE PERSON WHO SCORES LOW ON FACTOR Q₃ WILL NOT BE BOTHERED WITH WILL CONTROL AND REGARD FOR SOCIAL DEMANDS. HE IS NOT OVERLY CONSIDERATE, CAREFUL OR PAINSTAKING. HE MAY FEEL MALADJUSTED, AND MANY MALADJUSTMENTS WILL SHOW.

THE PERSON WHO SCORES HIGH ON FACTOR Q₃ TENDS TO HAVE STRONG CONTROL OF HIS EMOTIONS AND GENERAL BEHAVIOR, IS INCLINED TO BE SOCIALLY AWARE AND CAREFUL, AND EVIDENCES WHAT IS COMMONLY TERMED "SELF-RESPECT" AND REGARD FOR SOCIAL REPUTATION. HE SOMETIMES TENDS, HOWEVER, TO BE OBSTINATE. EFFECTIVE LEADERS, AND SOME PARANOIDS ARE HIGH ON Q₃.

FACTOR Q₁

RELAXED, TRANQUIL, TORPID, UNFRUSTRATED VS. TENSE, FRUSTRATED, DRIVEN, OVERWROUGHT

THE PERSON WHO SCORES LOW ON FACTOR Q₁ TENDS TO BE SEDATE, RELAXED, COMPOSED, AND SATISFIED (NOT FRUSTRATED). IN SOME SITUATIONS, HIS OVERSATISFACTION CAN LEAD TO LAZINESS AND LOW PERFORMANCE, IN THE SENSE THAT LOW MOTIVATION PRODUCES LITTLE TRIAL AND ERROR. CONVERSELY, HIGH TENSION LEVEL MAY DISRUPT SCHOOL AND WORK PERFORMANCE.

THE PERSON WHO SCORES HIGH ON FACTOR Q₁ TENDS TO BE TENSE, EXCITABLE, RESTLESS, FRETFUL, IMPATIENT. HE IS OFTEN FATIGUED, BUT UNABLE TO REMAIN INACTIVE. IN GROUPS HE TAKES A POOR VIEW OF THE DEGREE OF UNITY, ORDERLINESS, AND LEADERSHIP. HIS FRUSTRATION REPRESENTS AN EXCESS OF STIMULATED, BUT UNDISCHARGED, DRIVE.

FACTOR I

LOW ANXIETY

VS. HIGH ANXIETY

THE PERSON WHO SCORES LOW ON THIS FACTOR TENDS TO BE ONE WHOSE LIFE IS GENERALLY SATISFYING AND ONE WHO IS ABLE TO ACHIEVE THOSE THINGS THAT SEEM TO HIM TO BE IMPORTANT. HOWEVER, AN EXTREMELY LOW SCORE CAN MEAN LACK OF MOTIVATION FOR DIFFICULT TASKS, AS IS GENERALLY KNOWN IN STUDIES RELATING ANXIETY TO ACHIEVEMENT.

THE PERSON WHO SCORES HIGH ON THIS FACTOR IS HIGH ON ANXIETY AS IT IS COMMONLY UNDERSTOOD. HE NEED NOT BE NEUROTIC, SINCE ANXIETY COULD BE SITUATIONAL, BUT IT IS PROBABLY THAT HE HAS SOME MALADJUSTMENT, I.E., HE IS DISSATISFIED WITH THE DEGREE TO WHICH HE IS ABLE TO MEET THE DEMANDS OF LIFE AND TO ACHIEVE WHAT HE DESIRES. VERY HIGH ANXIETY IS GENERALLY DISRUPTIVE OF PERFORMANCE, AND PRODUCTIVE OF PHYSICAL DISTURBANCES.

FACTOR II

INTROVERSION

VS. EXTRAVERSION

THE PERSON WHO SCORES LOW ON FACTOR II TENDS TO BE SHY, SELF-SUFFICIENT, AND INHIBITED IN INTERPERSONAL CONTACTS. THIS CAN BE EITHER A FAVORABLE OR UNFAVORABLE FINDING, DEPENDING UPON THE PARTICULAR SITUATION IN WHICH THE PERSON IS EXPECTED TO FUNCTION; E.G., INTROVERSION IS A FAVORABLE PREDICTOR OF PRECISION WORKMANSHIP.

THE PERSON WHO SCORES HIGH ON THIS FACTOR IS A SOCIALLY OUTGOING, UNINHIBITED PERSON, GOOD AT MAKING AND MAINTAINING INTERPERSONAL CONTACTS. THIS CAN BE VERY FAVORABLE IN SITUATIONS THAT CALL FOR THIS TYPE OF TEMPERAMENT, E.G., SALESMANSHIP, BUT SHOULD NOT BE CONSIDERED NECESSARILY FAVORABLE AS A GENERAL PREDICTOR, E.G., OF SCHOLASTIC ACHIEVEMENT.

FACTOR III

TENDERMINDED EMOTIONALITY

VS. ALERT POISE

THE PERSON WHO SCORES LOW ON FACTOR III IS LIKELY TO BE TROUBLED BY PERVASIVE EMOTIONALITY, AND MAY BE OF A DISCOURAGED, FRUSTRATED TYPE. HE IS, HOWEVER, SENSITIVE TO THE SUBTLETIES OF LIFE, LIKELY TO BE ARTISTIC AND RATHER GENTLE. IF HE HAS PROBLEMS, THEY OFTEN INVOLVE TOO MUCH THOUGHT AND CONSIDERATION BEFORE ACTION IS TAKEN.

THE PERSON WHO SCORES HIGH ON THIS FACTOR IS LIKELY TO BE AN ENTERPRISING, DECISIVE, AND RESILIENT PERSONALITY. HOWEVER, HE IS LIKELY TO MISS THE SUBTLE RELATIONSHIPS OF LIFE, AND TO ORIENT HIS BEHAVIOR TOO MUCH TOWARD THE OBVIOUS. IF HE HAS DIFFICULTIES, THEY ARE LIKELY TO INVOLVE RAPID ACTION WITH INSUFFICIENT CONSIDERATION AND THOUGHT.

SUBDUEDNESS

vs. INDEPENDENCE

THE PERSON WHO SCORES LOW ON FACTOR IV IS A GROUP-DEPENDENT, PASSIVE PERSONALITY. HE IS LIKELY TO DESIRE AND NEED SUPPORT FROM OTHER PERSONS, AND LIKELY TO ORIENT HIS BEHAVIOR TOWARD PERSONS WHO GIVE SUCH SUPPORT.

THE PERSON WHO SCORES HIGH ON THIS FACTOR TENDS TO BE AN AGGRESSIVE, INDEPENDENT, DARING, INOISIVE PERSON. HE WILL SEEK THOSE SITUATIONS WHERE SUCH BEHAVIOR IS AT LEAST TOLERATED AND POSSIBLY REWARDED, AND IS LIKELY TO EXHIBIT CONSIDERABLE INITIATIVE.

C. W. F. - 2

THE CORNELL WORD FORM TEST (CWF-2) WAS DEVELOPED BY THE CORNELL UNIVERSITY MEDICAL COLLEGE FOR THE RAPID PSYCHIATRIC ASSESSMENT OF LARGE NUMBERS OF PERSONS TO CONTRIBUTE A DESCRIPTIVE SKETCH OF THE INDIVIDUAL'S ADAPTIVE AND ADJUSTMENT MECHANISMS IN A MANNER NOT APPARENT TO THE SUBJECT. IT HAS BEEN FOUND USEFUL IN SITUATIONS WHERE STRONG MOTIVATION MIGHT MAKE RESPONSES TO DIRECT QUESTIONS UNRELIABLE.

PRIMARILY THE CWF-2 HAS SHOWN ITSELF TO BE EFFECTIVE IN INDICATING THE PRESENCE OF DISTURBANCES IN ADJUSTMENT, AS EXHIBITED IN PSYCHOTIC, PSYCHONEUROTIC AND RELEVANT BODILY REACTIONS AND DISEASES. DEVIATIONS FROM THE AVERAGE, OR "NORMAL" ARE REFLECTED IN THE WORD FROM SCORE, BUT THE SCORE DOES NOT ASCERTAIN WHAT SPECIFIC DIFFICULTIES ARE INVOLVED. THUS, INDIVIDUALS WITH A VARIETY OF DIFFERENT MANIFESTATIONS OF MALADJUSTMENTS MAY BE FOUND TO HAVE THE SAME SCORE.

AT THE CUT-OFF LEVEL OF 10, 69% OF 200 PSYCHIATRIC MALE PATIENTS AT THE NEUROPSYCHIATRIC ARMS OF ST. ALBANS NAVAL HOSPITAL SCORED 10 OR MORE. OF 200 OFFICER CANDIDATES AT THE CAMP LEE, VA. QUARTERMASTER SCHOOL 4% SCORED 10 OR MORE. THE TEST WAS ALSO GIVEN TO 49 TOP STRIPERS IN THE CLASS OF 1969 (3RD SET). 40 HAD A SCORE OF 4 OR LESS, 8 HAD A SCORE OF EITHER 5 OR 6, AND ONE HAD A SCORE OF MORE THAN 7. THEIR CWF-2 AVERAGE WAS 3.14. IT IS INTERESTING TO NOTE THAT THE WINNER OF THE '72 PLEBE SUMMER COMPETITION WAS ALSO THE COMPANY WITH THE LOWEST CWF-2 SCORE AVERAGE, IE: 3.01

CLASS	% ATTRITION OF TOTAL CLASS BY END OF 1ST SEM. PLEBE YEAR	NO. OF M WITH CWF-2 SCORE OF 10 AND ABOVE	% ATTRITION OF M WITH CWF-2 SCORES OF 10 & ABOVE AT END OF 1ST SEM, PLEBE YR.
1972	17.7 %	69	27.6 %
1973	11.8 %	29	17.2 %
1974	8.0 %	93	14.0 %
1975	4.4 % (END PLEBE SUMMER)	101	12.8 % (END OF PLEBE SUMMER) 3.7% FOR THOSE WITH A SCORE OF 9 & UNDER

WITH FURTHER REFERENCE TO THE CLASS OF 1972 STATISTICS INDICATE THAT AT THE END OF THE FIRST SEMESTER OF PLEBE YEAR 13% OF THOSE WITH A SCORE OF 3 HAD RESIGNED WHILE 15% OF THOSE WITH A SCORE OF 8 OR MORE HAD LEFT. OF THOSE M WITH A 1ST SEMESTER PLEBE YEAR QPR BETWEEN 2.50 AND 4.00, 95% HAD A CWF-2 SCORE OF 10 OR LESS.

A RECENT STUDY OF NEARLY 1,500 HARVARD DROPOUTS CONCLUDED THAT 43% OF THE MEN WHO DROPPED OUT OVER THE PAST FIVE YEARS DID SO FOR PSYCHIATRIC REASONS.

TRAIT DESCRIPTIONS FOR THE AMI
High scorers are described as:

- DRIVE: Desire to win or be successful; competitive; likes to be challenged; winning is placed above other things; sets high goals for himself in athletics; aware of what he wants.
- SELF CONFIDENCE: Sure of himself and of his ability; does not worry too much; handles unexpected situations well; does not show indecisiveness; speaks up for what he believes to coaches and players.
- AGGRESSIVENESS: Thinks it is necessary to be aggressive to win; easy for him to be aggressive; likes to argue; concerned about not getting pushed around; likes physical contact; speaks out when he is angry; wants to get back at people who beat him.
- COACHABILITY: Respects the coaches and accepts their advice; respects the training rules; accepts the leadership of the team captain; values coaching and considers it important to a good athlete; talks to the coach about his ideas for a game.
- DETERMINATION: Sticks with things; does not give up easily; willing to practice long and hard; is one of the first out to practice and one of the last to leave; works on skills until he is exhausted; often works out by himself.
- EMOTIONALITY: Mature and stable; not easily upset; not affected by his feelings; often does not let his feelings show; not easily depressed for frustration by bad breaks, calls, or mistakes; shows self discipline.
- CONSCIENCE DEVELOPMENT: Conscientious; likes to do things as correctly as possible; does not try to bend the training rules to fit his own needs; places the good of the team above his personal well-being; is not late for practice; does not try to con his coach and fellow players.
- TRUST: Accepts people at face value; does not look for ulterior motives behind what others do or say; believes what the coaches or other players say to him; tends to get along well with his teammates.
- GUILT PRONENESS: Accepts responsibility for his actions; willing to withstand much physical and mental pain; tends to dwell on his mistakes and to punish himself for them; will play hard even if he is injured; tends to take the blame even when it is not his fault.
- LEADERSHIP: Likes to influence his teammates to do things his way; likes to make decisions; likes to lead his teammates; is good at getting what he wants; probably wins most of the arguments he gets into; outspoken; takes charge of things.
- MENTAL TOUGHNESS: Can take rough handling; does not get easily upset when losing, playing badly, or being spoken to harshly; accepts strong criticism without being hurt or getting upset; does not need too much encouragement from his coach.

CAPSULE DESCRIPTION OF THE "MAT" - THE MOTIVATION ANALYSIS TEST

DEFINITIONS

ERG - A DRIVE OR SOURCE OF REACTIVE ENERGY DIRECTED TOWARD A PARTICULAR GOAL.

SENTIMENT - AN ACQUIRED AGGREGATE OF ATTITUDES, BUILT UP BY LEARNING AND SOCIAL EXPERIENCE. LIKE AN ERG IT IS A SOURCE OF MOTIVATION AND INTEREST.

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CAREER SENTIMENT - AMOUNT OF DEVELOPMENT OF INTERESTS IN A CAREER.

HOME-PARENTAL SENTIMENT - STRENGTH OF ATTITUDES ATTACHING TO THE PARENTAL HOME.

FEAR ERG - LEVEL OF ALERTNESS TO EXTERNAL DANGERS.

NARCISISM-COMFORT ERG - LEVEL OF DRIVE TO SENSUOUS, SELF-INDULGENT SATISFACTIONS.

SUPEREGO SENTIMENT - STRENGTH OF DEVELOPMENT OF CONSCIENCE.

SELF-CONCEPT SENTIMENT - LEVEL OF CONCERN ABOUT THE SELF-CONCEPT, SOCIAL REPUTE.

MATING ERG - STRENGTH OF THE NORMAL, HETEROSEXUAL OR MATING DRIVE.

PUNACITY-SADISM ERG - STRENGTH OF DESTRUCTIVE, HOSTILE IMPULSES.

ASSERTIVENESS ERG - STRENGTH OF THE DRIVE TO SELF-ASSERTION, MASTERY, AND ACHIEVEMENT.

SWEETHEART-SPOUSE SENTIMENT - STRENGTH OF ATTACHMENT TO WIFE (HUSBAND) OR SWEETHEART.

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UNINTEGRATED SCORE - UNCONSCIOUS MOTIVATIONS. INTEGRATED SCORE - CONSCIOUS MOTIVATIONS.

TOTAL MOTIVATION = UNINTEGRATED + INTEGRATED SCORES

- - -

SPECIAL TOTAL SCORES

GENERAL AUTISM-OPTIMISM ----- PREDICTION OF HAPPY-GO-LUCKY CHARACTERISTICS.

GENERAL INFORMATION-INTELLIGENCE - A FAIR MEASURE OF INTELLIGENCE, ONLY A GUIDE.

TOTAL INTEGRATION ----- THE GENERAL LEVEL OF THE PERSON'S INTEGRATION.

TOTAL PERSONAL INTEREST ----- THE CAPACITY TO GET INTERESTED IN ONE'S WORLD.

TOTAL CONFLICT ----- SOMEWHAT PREDICTIVE OF PSYCHIATRIC MALADJUSTMENT.

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AS WITH ALL TESTS THIS ONE SHOULD BE USED AS A SUPPLEMENTAL GUIDE TO THE OBSERVERS OWN EVALUATION OF THE PERSON TESTED. WHERE A MAJOR DISCREPANCY SEEMS TO EXIST FURTHER DISCUSSIONS WITH THE TEST ADMINISTRATORS MAY BE IN ORDER.